DOCUMENT RESUME

ED 218 474 CE 032 819

AUTHOR	Perlmutter, Deborah E.
TITLE	System-Wide Tests of Occupational Programs.
INSTITUTION	New York City Board of Education, Brooklyn, NY. Office of Occupational and Career Education.
PUB DATE	82
NOTE	279p.
EDRS PRICE	MF01/PC12 Plus Postage.
DESCRIPTORS	*Auto Mechanics; Educational Research; *Employees; Employer Attitudes; *Followup Studies; Graduate Surveys; High School Graduates; *Program Effectiveness; Program Evaluation; *Rating Scales; Secondary Education; *Vocational Education
IDENTIFIERS	*Impact; Project CAR; Project CATCH; Project EMIS

ABSTRACT

This report presents the background methodology, findings, and recommendations of three studies that comprised System-Wide Tests of Occupational Programs, a 4-year research program to assess the impact of vocational education using various followup techniques. Part 1 focuses on Project CATCH (Career Training Choice), a followup study of students denied admission to Vocational High Schools. Some findings reported include: those denied admission had a high, early dropout rate; occupational training in Academic High School was associated with better retention and higher grade point average; and 95% of the students expressed interest in receiving occupational training while in high school. Part 2 focuses on Project CAR (Careers in Automotives Research), a followup study of graduates in various occupational programs offering training in automotives. Major findings reported include: the majority of graduates had worked or were working after graduation and reported they were implementing plans for work and education at graduation, employer rating of graduates was high, and job retention was high. Part 3 focuses on Project EMIS (Employer Measures of Industry Satisfaction), the development and use of an Employee Rating Scale. These findings are reported: the scale proved internally consistent and reliable over time and it was not useful for self-rating. (YLB)

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System-Wide Tests of Occupational Programs

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NEW YORK CITY PUBLIC SCHOOLS
1982

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SYSTEM-WIDE TESTS OF OCCUPATIONAL PROGRAMS

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EXECUTIVE SUMMARY

The mission of the Office of Occupational and Career Education is to provide incentive, opportunity and guidance for youth and adults, including those with special needs, to fulfill their potential through the acquisition of knowledge and skills which will prepare them for their highest level of attainment. This includes entry into the competitive labor market, advanced training, or further education.

Research is directly related to the mission of OCE. Through examination of student behavior and assessment of graduate performance, we are able to focus on the ability of programs to meet the developmental needs of students as well as the demands of our society for an educated work force. Successful programs and strategies are identified for replication. Areas for improvement are pinpointed and new programs are designed. Through its program of research and evaluation, OCE accumulates the knowledge from which it provides ever improving occupational and career education.

System-wide Tests of Occupational Programs was a four-year research program designed to assess the impact of vocational education using a variety of follow-up techniques. It was composed of three discrete studies:

- o Project CATCH - Career Training Choice - a follow-up study of students denied admission to Vocational High Schools.
- o Project CAR - Careers in Automotives Research - a follow-up study of graduates of a variety of occupational programs offering training in automotives.
- o Project EMIS - Employer Measures of Industry Satisfaction - the development and use of an Employee Rating Scale.

The background methodology, findings and recommendations of each study are presented as the separate parts of this report.

The purpose of Project CATCH, presented in Part I, was to assess the difference in high school performance and retention between students who applied to Vocational High Schools and were denied admission, those who applied to Vocational High Schools and were accepted, and those who had not applied. It began with the collection of data on 2,700 Intermediate/ Junior High School seniors in June 1976. The seniors completed a survey of their perceptions of the high school application process, their attitudes toward starting high school and their area of occupational interest. Following this, IS/JHS records of the respondents were examined and yielded three matched groups of students for intensive follow-up. The Targets had been denied admission to Vocational High School, the Vocational Controls had been admitted and were planning to attend; the Academic Controls had never applied to Vocational High School. High School records of retention, inter-school transfer, subject grades, attendance and punctuality were collected for five high school semesters. They were used to compare the performance of the three groups of subjects while controlling for performance in Intermediate/Junior High School. In addition, at the end of the third year two surveys were conducted. Students who had left the New York City High School were sent the Job Training Survey to determine what occupational training if any they had received since dropping out and what their other educational and work activities had been. Students who were retained were sent a Career Choice Survey which included the Attitude Scale of Crites' Career Maturity Inventory (McGraw Hill, 1973), questions on occupational training received while in high school and plans after graduation. Finally a profile of the dropouts was examined.

The major findings of Project CATCH were:

- o The Intermediate/Junior High School Survey of Choices showed significant differences in perception of the application process and feelings about starting high school among the three groups of students.
- o The Targets, those denied admission, had a high, early dropout rate. In the first semester, 18% of the Targets and none of the Vocational Controls dropped out. At the end of five semesters, 58.5% of the Targets; 68.7% of the Academic Controls and 73.7% of the Vocational Controls were retained in New York City High Schools.
- o On measures of grade point average, pass/taken ratio and attendance, the Vocational Controls were consistently highest, the Targets second, and the Academic Controls lowest.
- o When the students in Academic High Schools - the Targets and Academic Controls - received any occupational training, this was associated with better retention and higher grade point averages.
- o At the time the subjects were about to graduate from Intermediate/Junior High School, 95% expressed an interest in receiving occupational training while in High School. Surveys of both retained students and dropouts showed that virtually the only source of training was that available within the regular high school program.

The purpose of Project CAR, presented in Part II, was to see the effects of five different types of automotive occupational training programs on the work and educational activities of high school graduates. It began with a survey of the post-secondary plans of seniors in five types of automotive occupational training programs: Vocational High Schools, Comprehensive High Schools; Academic High Schools; Shared Instruction Program and After School Occupational Skills Program. The graduates of the programs were surveyed by mail and telephone after one year and again after two years to determine their work and education activities as related to the plans they had expressed as seniors. In addition, they evaluated the programs they had taken in relation to their work and schooling after high school. The employers, whose names were supplied by the graduates in the One-Year Follow-up, were also surveyed.

They were asked to complete an Employee Rating Scale which had been developed through prior interviews and field tests with employers in a variety of automotive related businesses. Employers in non-related fields were asked to complete a general form of the Employee Rating Scale. Responses to the items on the four surveys (the Senior Survey, the One-Year Follow-up, the Two-Year Follow-up and the Employer Evaluation) were analyzed for differences by program. In addition, the same results were analyzed by graduates' high school averages.

The major findings of Project CAR were:

- The majority of graduates (91.4%) had worked or were working after graduation.
- The majority of graduates (88.2%) also reported they were implementing the plans made for work and education at graduation.
- Of those continuing their education, 66% were in automotive related fields.
- The employer rating of graduates in both related and non-related employment was high. (Mean for each was 2.5 on a scale of 1 - 3.)
- Job retention reflects the high ratings. In the Two-Year Follow-up, 91.7 of these who had been working the first year were still working, 79.2% at the same job.
- About three fourths of the graduates in automotive related jobs came from a Vocational High School, with the remainder from a Comprehensive High School. More than 75% of these were working while in high school. Almost a third had the promise of a job while in high school.
- All students, regardless of program, wanted greater emphasis on job-seeking skills including job hunting, resumé writing, small business operation and realistic expectations of the job market.
- No relationship was found between high school average and education activities, work activities, or employer evaluation.

Project EMIS, presented Part III, had two phases. The purpose of the first phase was to develop, test and modify an Employee Rating Scale to be used to follow-up graduates of a variety of occupational programs. The purpose of the second phase was to utilize the Employee Rating Scale to assess the performance of groups of occupational completers. In the first phase a trial scale was sent to a group of employers of graduates and to the graduates themselves. Subsequent mailings included tests of reliability over time and measures to rank the Scale items. The Scale was assessed using the Alpha Coefficient of Reliability, inter-item correlations, test-retest reliability, factor analysis and paired comparisions. The resultant instrument was sent to the employers of 1977 occupational education graduates as supplied in the Fall 1978 Occupational Education Data Survey (OEDS 2). OEDS also served as the data base for analysis of returns.

The major findings of Project EMIS were:

- The Employee Rating Scale proved to be internally consistent and reliable over time.
- Graduates and employers did not see the items on the Scale in the same way. The Scale was not useful for self-rating.
- Employers showed a high level of satisfaction with on-the-job performance of graduates.
- Employers of Vocational High School graduates reported that occupational training was the basis for hire more frequently than employers of graduates of Academic/Comprehensive High Schools.

System-Wide Tests of Occupational Programs affirmed the importance of vocational training in helping students reach their goals in high school and beyond it. The research pointed up the need for additional occupational training programs, the need for additional training in job seeking and employability skills within occupational programs, the need for increased guidance services and information systems at decision-making points, and the importance of respecting student choices and decisions. The research gives credence to long-standing claims that occupational education provides motivation and enrichment in high school as well as an avenue to work and further education beyond high school.

George R. Quarles
GEORGE R. QUARLES
Chief Administrator
Office of Occupational and Career Education

ACKNOWLEDGMENTS

It is difficult to acknowledge all the contributions made by individuals who participated in this research program. There are some however, whose help must be singled out.

The first thank you must go to George Quarles, who supported the fundamental importance of research in occupational education; to Alan Robertson, Chief of the Bureau of Occupational Education Research at the State Education Department, who not only helped with the design, but insured state funding; and to Fred Banes and Vera Hannenberg who gave basic direction to the program and priceless encouragement to its author.

Daisy Shaw, Director of the Bureau of Vocational and Educational Guidance, provided much of the initial impetus for CATCH, the first project. Both Samuel Polatnick and Nathan Quinones as Executive Directors of the High School Division, smoothed the way for data collection in CATCH and CAR. Within schools and school districts, Supervisors of Guidance, administrators, teachers and counselors were marvelously cooperative in discussing guidance practices and related curricula, in distributing surveys, and in assisting in data collection. This was done in a period of tight resources which already strained their schedules.

Professional assistance with analysis and programming was provided by Stuart Baden and Sam Ryan, both of Baruch College. Joan Sanfilippo, now a counselor at Edward R. Murrow High School, gave Project CAR its start, interviewing teachers of automotives, conducting the field trials to prepare the Employee Rating Scale and surveying the seniors in Automotive programs. The late Geraldine Dickson of the State Education Department provided early guidance with the design of Project CATCH.

The extensive data collection in the high schools, the patient addressing, mailing, recording and coding of surveys, and the typing of interim reports, correspondence and forms was completed by a small staff which consisted first of Nilda Sierra (who started with the Project as a Coop student) and Sara DiMaria, and later of Bessie Jones (a graduate of one of our Manpower Training Programs) Judy Schwartz and David Goldstein. This final report was typed by Mary Bay (a Manpower classmate of Ms. Jones).

Many thanks are due all of those mentioned above as well as the anonymous employers, graduates, and students who willingly assisted in field tests of early versions of the instruments, filled out sometimes numerous questionnaires and responded to telephone interviews.

PART I

CAREER TRAINING CHOICE:

A FOLLOW-UP STUDY OF STUDENTS DENIED ADMISSION TO VOCATIONAL HIGH SCHOOL

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INTRODUCTION

Project CATCH - Career Training Choice - is a follow-up study of New York City High School students denied admission to the Vocational High Schools. It was funded from 1976 to 1979 under Vocational Education Act (VEA) project numbers 76-4A-35, 77-4A-39, 79-3A-901 and CO 79-3A-1024.

The impetus for this research was the consistently high number of applicants denied both screened and unscreened courses. For September, 1974 admission: 7,202 out of 18,946 tested applicants were rejected and 7,914 students were denied admission to oversubscribed unscreened courses. For September 1975 admission: 7,997 out of 21,400 tested applicants were rejected and 5,713 students were denied admission to oversubscribed screened courses. These figures are for the two years immediately preceeding the initiation of Project CATCH. For September 1976, the figures continued to climb. Despite a record high opening enrollment of 51,318 (3,909 over September 1975) 9,908 out of 24,118 tested applicants were denied admission.

A basic question emerged about these students. Did this denial of their choice affect high school performance? It was hypothesized that they would perform less well in high school - as measured by grades, attendance, punctuality and retention - than students who had been allowed their choice.

The report which follows includes:

- The research questions raised by the problem stated above
- The methodology employed
- A description of the subjects' school performance prior to high school entrance
- The results of the Intermediate/Junior High School survey of subjects' feelings about the high school application process and desires for occupational training.
- An analysis of the high school retention rates and achievement of the subjects, term by term, and overall
- An analysis of the effects of receiving occupational training in other than a Vocational High School program
- The results of a survey of subjects' career maturity and post-secondary planning of students.
- A profile of the subjects who dropped out, including their performance prior to dropping out and their activities after dropping out

This report incorporates an earlier, interm report.

CHAPTER 1

THE RESEARCH QUESTIONS

The number of students denied admission each year to the Vocational High Schools led to the basic question underlying this study: What is the effect of denied admission on students' subsequent high school retention and achievement?

The basic question may be examined through subsets of questions at three different points: the effect on perceptions of the high school admission process, the effect on performance while in high school, and the effect on post high school plans.

Questions Related to the Effect on Perceptions of High School Admissions

1. How does denial of admission to a Vocational High School affect perception of and satisfaction with the high school application process?
2. How does denial of admission to a Vocational High School affect feelings about and attitudes toward starting high school and starting a particular high school?

Questions Related to the Effect on High School Performance

1. Is there a difference in the retention rate of those denied admission, those admitted, and those who never sought admission?
2. Is there a difference in the high school performance of those denied admission, those admitted and those who never sought admission?
3. Is there a different peak time period for each of the groups above when high school performance is at magnitude?
4. Is there a different "low point" for each group?
5. Is there a different high and/or low time period for attrition between those denied admission, those not denied admission and those who never sought admission?
6. How many subjects not admitted to Vocational High Schools receive occupational training in the area of occupational interest expressed in Junior High School?
7. Does receiving this occupational training affect retention and/or high school performance?

Questions Related to the Effect on Post High School Plans

1. What is the relationship between the post high school occupational training of dropouts and the area of occupational interest expressed in Junior High School?
2. What is the relationship between the post high school work activities of dropouts and the areas of occupational interest expressed in Junior High School?
3. What is the maturity of career decision making towards the end of the high school career for the subjects in the three original groups - those denied admission to Vocational High Schools, those admitted and those who never sought admission?

CHAPTER 2

METHODOLOGY

Definitions

Subjects

Target (T):	A student who applied for one or more Vocational High Schools, had been denied admission, and was also not admitted to any other special program or school.
Academic Control (A):	A student, matched to a particular target, as stated in subject selection, who applied only for his zoned Academic/Comprehensive High School.
Vocational Control (V):	A student, matched to a particular Target, as stated in subject selection, who was accepted into and planning to attend a Vocational High School
Triplet:	A matched T, A, and V.

High School Retention

Retention Rate:	A student who remained on register in any New York City Public High School is counted as retained. Retention rate is the percentage of students retained to those who started.
Attrition Rate:	The percentage of those not retained to those who started.
Dropout:	A student who entered a New York City Public High School and left for any reason other than graduation or movement to another New York City Public High School.

High School Performance

Grade Point Average (GPA):	The mean of all end-semester class grades except for grades in Title I remedial reading and mathematics classes and physical education. In schools on cycles (two grades entered on permanent record for each semester) the mean of all such grades as above is computed by semester.

Pass/Taken Ratio (PTR):	A ratio of classes passed to classes attempted. Passing grade used is 65%. Computation includes the identical class grades outlined under GPA.
Attendance:	The number of days a subject is listed as officially absent from school on the school's records.
Punctuality:	The number of days a subject is listed as oficially late to school on a school's records.

Selection of Subjects

In New York City, subjects enter high school from the 8th grade of Intermediate School and the 9th grade of Junior High School. Both Intermediate and Junior High Schools (IS/JHS) were therefore included. The major objective in choosing particular Intermediate and Junior High Schools for inclusion was to achieve a sample representative of the city as to geography, ethnicity, and socio-economic class.

Within each IS/JHS all candidates for graduation (seniors) present on a given day were surveyed as to perceptions of the high school application process, attitudes toward starting high school, and areas of occupational training interest. For each of the 2,700 IS/JHS seniors responding, a two-pronged data collection was undertaken: a school application history was established as well as a profile of 8th or 9th grade achievement.

The profile of the IS/JHS senior year's achievement included:

- Reading score on the 3/76 Mat
- Subject grades in English, Mathematics, Social Studies, Science
- IS/JHS program to which assigned (e.g.: Mainstream, Special Progress, Bilingual, etc.).
- Level of Math Class (e.g.: pre-algebra, two-term algebra, three-term algebra).
- Number of days absent.
- Number of days late.

From this data collection, complete records on 2,437 subjects were assembled. The balance included students who had been discharged before the close of school, students who had failed to graduate, missing records and obviously "false" names.

The subjects for intensive follow-up emerged from this group of 2,437. A Target student was identified as a student who had applied for a Vocational High School, and been denied admission, and was also not admitted to any other special program or high school. There was no element of choice. All who qualified were selected.

Using the IS/JHS application and achievement data, two matching subjects were chosen for each "Target." A "Vocational Control" was defined as a student who was admitted to and attending a Vocational High School. An "Academic Control" was defined as a student who had applied only to his zoned Academic/Comprehensive High School. From this procedure 99 triplets emerged, 53 entering 10th grade and 46 entering 9th grade.

Matching Criteria

1. Feeder Intermediate/Junior High School

2. IS/JHS program to which assigned

3. Level of Math class to which assigned

4. Reading Score on MAT

For example, Triplet numbered 1 might be composed of: T-1 who attended JHS-A, was in 9th grade of two year SP, was in the two-term algebra program, and had a reading score of 11.1 on the 3/76 MAT. A-1 also attended JHS-A, was in the 9th grade of two year SP, was in the two-term algebra program and had a reading score of 11.2. V-1 also attended JHS-A in the 9th grade of two year SP, was in the two-term algebra program and had a reading score of 11.0.

Data Collection and Instruments

Intermediate/Junior High Survey of Choices

Data collection began in the Intermediate/Junior High School with the IS/JHS Survey of Choices designed to yield student responses in four areas:

- Perception of the high school application process - Where did they feel they received help? Who did they feel helped them? Did they feel satisfied with their information?

- Attitudes toward school - How did they feel about starting high school? About the particular school they were scheduled to attend? How much education did they want?

- Desire for occupational training while in high school - Did they want to be prepared for a job while in high school? To what extent were they aware of the N.Y.C. secondary level occupational training programs being offered?

- Accuracy of memory of their own applications and responses - Did they remember the kind of schools and programs they had applied to? Did they remember the results of these applications? Did they know the school they would be attending?

The survey form itself (See Appendix A: Intermediate/Junior High School Survey of Choices) was developed after a survey of literature in the field and after interviewing Counselors and Supervisors of Guidance as to current practices in high school articulation (See Appendix B: Questions for District Supervisors of Guidance and Counselors).

The survey was administered to the candidates for graduation present on a given normal school day. Prior to this, workshops were held with the administering teachers and uniform directions were distributed and discussed. (See Appendix C: Intermediate/Junior High School Survey Instructions)

Application History

A form (See Appendix D: Intermediate/Junior High School Data Collection Instrument) was designed to collect the names of schools and programs to which the IS/JHS seniors had applied and the results of their applications. The instrument also yielded the name of the high school to which the student had been assigned (sent on List Notice).

Intermediate/Junior High School Performance

The same IS/JHS Data Collection Instrument was used to collect the following items for each of the more than 2,700 subjects surveyed:

- Latest standardized reading test score and date
- Latest standardized mathematics test score and date
- End of year grades in English, social studies, science, and mathematics
- Level of mathematics class to which assigned (e.g.: pre-algebra, honors, etc.)
- Special program designation (e.g.: bilingual, accelerated program, mainstream, etc.)
- Number of days absent
- Number of days late
- Home address

The data was collected personally by the researcher and two clerks from each student's records in his or her sending Intermediate or Junior High School. This generally required a search of three different types of records in a particular school: the lists of applications sent; individual records of grades; duplicates of the List Notices sent to receiving high schools. Records were completed for 2,437 of the original 2,700 students surveyed.

High School Performance

Data were collected each semester for the 297 subjects selected for intensive follow-up. Instruments (See Appendix E: High School Data Collection Instruments) were designed to collect the following:

- Subjects taken
- End-semester grades
- Number of days absent
- Number of days late
- Occupational courses taken in other than Vocational High Schools
- Address change
- Official class
- Movement to another New York City High School, including destination and date of transfer
- Movement out of the New York City Public High Schools, including date of discharge and official reason

From this raw data the needed Grade Point Averages and Pass Taken Ratios were computed.

These data were collected by the researcher and two assistants at the high schools attended by the subjects. Permission to do this was granted by the Executive Director of the High Schools (Ssee Appendix F: Letters of Cooperation from the Executive Director of the High Schools). When a subject moved from one school to another, he or she was followed up. The students, who originally came from 10 Junior High Schools in June 1976, were pupils at more than 80 high schools by Spring 1979. Data were collected for five semesters of high school work.

Career Choice Survey

The Career Choice Survey (See Appendix G: Career Choice Survey) was mailed (with a follow-up to non-respondents) to all subjects who had not dropped out of high school as of Spring 1979. It included The Attitude Scale of the Career Maturity Inventory (Crites, 1973)* questions on occupational training received in high school, and plans after high school.

Job Training Survey

The Job Training Survey (See Appendix H: Job Training Survey) was designed to learn what occupational training, if any, the dropouts had received since leaving school, what their other educational activities had been, whether they were or had been working, and if any of these activities were related to the area of occupational interest expressed in the IS/JHS Survey of Choices.

Data Analysis

There were three basic types of analysis used:

- For measures of significant differences in performance where the valuables were quantifiable (e.g., GPA, PTR, Attendance, Punctuality) analysis of covariance was used with the same variable of IS/JHS performance serving as covariate. This measure was selected to control for initial differences in performance. Analysis of variance is also reported.
- For measures of significant differences in performance where the variables were quantifiable, but where it was not appropriate to control for differences in IS/JHS performance, (e.g., results of the CMI) analysis of variance was used.
- For non-parametric statistics (e.g., differences in responses to item in the IS/JHS Survey of Choices) chi square analysis was used.

In addition, frequency distributions and other descriptive statistics were utilized, as appropriate, to fully display data.

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* Dr. Crites was kind enough to waive the copyright and to extend permission to rewrite the Attitude Scale so that it would be suitable for a mail format.

CHAPTER 3

THE SUBJECTS

Characteristics of the Participating Intermediate/Junior High Schools

New York City students enter High School from Intermediate and Junior High Schools. Those coming from Intermediate Schools (IS) enter at the end of eighth grade, those from Junior High Schools (JHS) at the end of ninth grade. In this report both of those groups are referred to as the "IS/JHS Seniors" or the "IS/JHS Graduates."

Ten Intermediate/Junior High Schools were selected as representative: three were in Brooklyn, three in Manhattan, three in Queens and one in Staten Island. The schools were located in seven Community School Districts. Six of the schools were Junior High Schools, four were Intermediate Schools. (The Bronx does not appear in the sample, by intent, in view of the fact that needs related to this borough were the focus of another special and intensive research study. The basic characteristics are, however, represented in the sample.)

Table 1, Profile of Intermediate/Junior High Schools Surveyed, details, for various descriptive criteria, the means of the grades surveyed city-wide, the comparable grand means for the population surveyed, and the individual IS/JHS means. For example, the city-wide percentage of the IS/JHS "senior" population was 39.1% Black, 23.9% Puerto Rican, and 30.1% Other. In the total population of the schools surveyed, 39.9% were Black, 23.5% Puerto Rican, and 30.7% Other. The population in the individual Intermediate/Junior High Schools surveyed ranged from 12.0% to 80.7% Black, from 1.1% to 52.9% Puerto Rican, and from 0.2% to 84.8% Other. Thus Table 1 indicates the degree to which the schools participating were representative of the City using data from School Profiles 1976-77, New York City Board of Education. (See page 19.)

Profile of Students Selected for Follow-up

In June 1976 all IS/JHS seniors in the ten selected schools were administered the Intermediate/Junior High School Survey of Choices (See Appendix A: Intermediate/Junior High School Survey of Choices.) More than 2,700 students responded. In September 1976, a case by case data collection was undertaken for each of these students. Records at the IS/JHS were searched to complete an application history and a profile of IS/JHS achievement. Each application history included the names of high schools to which the students had applied,

Table 1

Profile of Intermediate/Junior High Schools Surveyed*

Descriptive Items	City-Wide IS/JHS Level	Means of Grades Surveyed	Grades Surveyed by Individual Schools									
			JHSA	JHSB	JHSC	JHSD	JHSE	JHSF	ISG	ISH	ISJ	ISK
% Black	39.1	39.9	17.1	22.1	80.7	12.0	17.6	68.9	42.1	77.0	39.0	23.3
% Am. Indian	.1	.2	0.0	0.0	0.0	0.0	0.0	0.0	.6	0.0	0.0	0.9
% Oriental	2.2	3.2	.3	16.2	.8	.9	7.6	0.0	2.3	0.0	.6	2.0
% Puerto Rican	23.9	23.5	22.0	52.9	15.3	1.1	1.2	14.9	19.8	20.9	10.7	14.0
% Other Span.	4.7	3.8	57.6	.2	.8	1.3	4.2	2.7	15.0	2.0	1.8	2.8
% Other	30.1	30.7	3.0	8.6	2.5	84.8	69.4	13.5	20.2	.2	47.9	57.1
Attendance (% Av. Daily Reg.)	81.5	81.1	81.4	82.8	78.7	82.6	85.4	77.4	78.6	79.6	79.9	84.4
Admissions	18.5	17.7	22.3	13.2	26.3	10.5	10.9	15.4	16.7	18.6	21.7	21.3
Departures	21.1	18.5	18.6	14.1	37.5	13.2	13.9	18.0	10.8	20.0	21.5	17.0
Promotions	90.6	88.9	92.8	82.4	82.9	87.3	93.0	90.1	93.5	89.6	86.4	90.7
Free Lunch Elig.	56.7	51.9	51.9	64.9	50.6	29.4	26.8	77.0	51.1	71.2	27.9	67.9
Mean Rdg. Total Test } 8th	7.7	8.1							8.3	7.0	8.2	8.9
Mean Rdg. Total Test } 9th	8.9	8.6	7.3	8.1	7.5	10.1	11.0	7.4				
Av. Class Size	30.0	31.4	30.4	30.4	30.7	33.4	33.2	32.9	30.6	32.9	29.7	30.7
Total N - 8th	75,087	1884							520	460	505	399
9th	35,782	2307	304	408	399	468	432	296				

*All data from School Profiles 1975-1976, New York City Board of Education the results of any applications and the name of the high school to which he or she had been assigned. The profile of achievement included standardized reading test scores, final grades in mathematics, English, social studies and science, the program to which the student was assigned, the level of mathematics class to which the student was assigned, the number of days absent for the year and the number of days late. (See Appendix D: IS/JHS Data Collection Instrument.) Records were completed for 2,437 of the 2,700 survey respondents.

The subjects for intensive follow-up came from three groups:

- Targets: those who had applied to a Vocational High School and been denied admission to that school and any other specialized high school.
- Vocational Controls: those who had been accepted into and were planning to attend a Vocational High School, and were matched to the Targets on specific criteria
- Academic Controls: those who had applied only to their zoned Academic High School and who were matched to the Targets on specific criteria.

Each matched group of three - a Target (T), Vocational Control (V), and Academic Control (A) - constituted a unit of analysis called a Triplet.

The matching criteria, as outlined earlier were:

- Feeder Intermediate/Junior High School
- Program to which assigned
- Level of mathematics class
- Reading score in the 3/76 Metropolitan Achievement Test

Implementation of Matching Criteria

It the implementation of the matching criteria, the following results were obtained.

1. Feeder IS/JHS - all triplets are matched without exception.
2. IS/JHS program - 95 Triplets are matched on this criterion. Where this criterion was not met, the greatest difference in reading score, within each of the four remaining triplets was respectively: one month, two months, four months, five months.
3. Level of math class - 97 Triplets are matched on this criterion
4. Reading Score on 3/76 MAT
   a. The range of all T's, V's and A's is 3.0 to 13.0
   b. The mean, reading score for the T's is 7.51, for the V's is 7.57, for the A's is 7.50

Table 2, the Frequency Distribution of IS/JHS Reading Scores, shows that not only are the means of the groups similar, but that the curves of all three groups are also comparable. Within each group, approximately 25% fall below 6.0, 50% between 6.0 and 9.9, and 25% at 10.0 and above.

Table 2

Frequency Distribution of IS/JHS Reading Scores

Reading Score	Targets		Vocational Controls		Academic Controls	
	Freq.	Cum. Pct.	Freq.	Cum. Pct.	Freq.	Cum. Pct.
3.0 - 3.9	3	3	4	4	3	3
4.0 - 4.9	5	8	3	7	5	8
5.0 - 5.9	16	24	19	27	14	22
6.0 - 6.9	15	39	14	41	15	37
7.0 - 7.9	20	60	17	57	21	59
8.0 - 8.9	10	70	11	68	10	69
9.0 - 9.9	8	78	5	73	7	76
10.0 -10.9	5	83	11	85	7	83
11.0 -11.9	7	90	3	88	8	91
12.0 -13.0	10	100	12	100	9	100

Comparison of Achievement Data

Data collected on grades, attendance and punctuality were not used in the matching (but are utilized in later analyses). However, these data were examined to assess how similar or different the three groups were. The items examined were:

- Grade Point Average - the mean of the four IS/JHS senior year final grades collected for each subject.
- Pass Taken Ratio - a ratio of subjects passed to subjects attempted computed on the same grades as above with 65% as passing.
- Number of days officially absent in the IS/JHS senior year.
- Number of days officially late in the IS/JHS senior year.

The similarities found between and among the three subject sub-groups on standardized reading scores were also found on the four criteria above. Analysis of variance performed on each criterion revealed no significant differences among the groups. In addition, examination of the frequency distributions for each measure showed surprising similarities. These are detailed in Table 3, Frequency Distribution of IS/JHS Senior Year Final Grade Averages; Table 4, Frequency Distribution of IS/JHS Senior Year Pass Taken Ratios; Table 5, Frequency Distribution of Days Absent in IS/JHS Senior Year; and Table 6, Frequency Distribution of Days Late in IS/JHS Senior Year. (See page 22-24)

The mean IS/JHS average of final grades was 72.83 for the T's, 75.37 for the V's, and 73.83 for the A's. For the T's approximately 25% had averages under 65.0; another 25% had averages between 65.0 and 72.0%; and the top 25% ranged from averages of 80.0 to 94.5. For the V's, the bottom quarter had an upper limit of 66.5; the second quarter ranged from that to 75.0 and the top quarter ranged from 83.8 to 96.5%. For the A's, the bottom quarter included those up to an average of 65.5, the second quarter up to 73.5, and the top quarter went from 83.0 to 94.8.

Attendance, as well as grades showed similarities. Approximately, one fourth of each group was absent 3 or fewer times and one fourth were absent between 4 and 13 times. As absence becomes greater, the similarity of pattern falls off. The greatest number of absences for the Targets was 81 days; for the Vocational Controls, 70 days; and the Academic Controls 104 days.

Sex was not a matching criterion. The following distributions may be noted. Forty-three Targets are female, 56 male. Of the 297 subjects, 141 are female. Of the 99 Triplets, 78 are composed of members of both sexes.

Table 3

Frequency Distribution of IS/JHS Senior Year Grade Averages

	Targets		Vocational Controls		Academic Controls	
GPA	Freq.	Cum. Pct.	Freq.	Cum. Pct.	Freq.	Cum. Pct.
38.0 - 49.9	0	0	1	1	3	3
50.0 - 54.9	0	0	2	3	4	7
55.0 - 59.9	11	11	2	5	5	12
60.0 - 64.9	14	25	7	12	9	21
65.0 - 69.9	9	34	19	31	15	36
70.0 - 74.9	25	60	14	45	15	52
75.0 - 79.9	15	75	21	67	8	60
80.0 - 84.9	12	87	11	78	19	79
85.0 - 89.9	4	91	11	89	14	93
90.0 - 94.5	9	100	9	98	7	100
95.0 -100	0	100	2	100	0	100
M=	72.83		75.37		73.83	
SD=	10.03		10.71		11.95	
N=	99		99		99	

Table 4

Frequency Distribution of IS/JHS Senior Year Pass/Taken Ratios

Pass/ Taken Ratio	Targets Freq.	Targets Cum. Pct.	Vocational Controls Freq.	Vocational Controls Cum. Pct.	Academic Controls Freq.	Academic Controls Cum. Pct.
0.0	4	4	2	2	5	5
.25	6	10	1	3	5	10
.50	8	18	5	8	2	12
.75	14	32	17	25	15	27
1.00	67	100	74	100	72	100

	Targets	Vocational Controls	Academic Controls
Mean	.838	.904	.864
SD	.280	.201	.275
N	99	99	99

Table 5

Frequency Distribution of Days Absent in IS/JHS Senior Year

Days Absent	Targets Freq.	Targets Cum. Pct.	Vocational Controls Freq.	Vocational Controls Cum. Pct.	Academic Controls Freq.	Academic Controls Cum. Pct.
0	10	10	8	8	8	8
1-5	18	28	22	30	19	27
6-10	15	43	17	47	16	43
11-15	10	54	14	62	16	60
16-20	10	64	13	75	10	70
21-25	6	70	10	85	8	78
26-30	5	75	2	85	8	86
31-40	13	88	5	92	5	91
41-50	6	94	1	93	1	95
51-60	3	97	3	96	3	96
61-70	2	99	4	100	1	98
71-80	0	99	0	100	2	98
81-104	1	100	0	100	2	100

	Targets	Vocational Controls	Academic Controls
Mean=	18.86	15.60	17.71
SD=	17.80	16.14	19.22
N=	99	99	99

Table 6

Frequency Distribution of Days Late in IS/JHS Senior Year

	Targets		Vocational Controls		Academic Controls	
Days Late	Freq.	Cum. Pct.	Freq.	Cum. Pct.	Freq.	Cum. Pct.
0	21	21	20	20	26	26
1-5	19	40	24	44	21	47
6-10	13	54	12	57	13	61
11-15	14	68	2	59	2	63
16-20	3	71	5	64	6	69
21-25	8	79	12	76	7	76
26-30	3	82	5	81	3	79
31-40	8	90	6	87	7	86
41-50	0	90	3	90	1	87
51-60	5	95	4	94	5	92
61-70	2	96	3	97	3	95
71-80	2	99	0	97	1	96
81-125	1	100	3	100	4	100
Mean=	15.81		17.79		17.36	
SD=	19.44		23.22		23.84	
N=	99		99		99	

CHAPTER 4

RESULTS OF THE INTERMEDIATE/JUNIOR HIGH SCHOOL SURVEY OF CHOICES AND APPLICATION HISTORIES

The Intermediate/Junior High School Survey of Choices was designed to yield information in four areas of student response:

- Perception of the high school application process - Where did they feel they received help? Who did they feel helped them? Did they feel satisfied with their information?

- Attitudes toward school - How did they feel about starting high school? About the particular school they were scheduled to attend? How much education did they want?

- Desire for occupational training while in high school - Did they want to be prepared for a job while in high school? To what extent were they aware of the N.Y.C. secondary level occulpational training programs being offered?

- Accuracy of memory of their own applications and responses - Did they remember the kind of schools and programs they had applied to? Did they remember the results of these applications? Did they know the school they would be attending?

The Intermediate/Junior High School Data Collection Instrument dovetailed with this in that it yielded information on numbers of applications per student as well as the check against which accuracy of memory of applications and responses could be made.

The data were examined in six ways:

- A tabulation of applications, acceptances, rejections and student decisions to attend was made for Vocational High Schools; Talent High Schools (Stuyvesant High School, Bronx High School of Science, Brooklyn Technical High School, High School of Music and Art); and Education Option Programs.*

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* Education Option Programs offer courses centering on some common theme, often a career related or occupational theme. Examples of these programs are Criminal Justice, Agriculture, and Communications. In some cases, entire schools are Education Option Schools, such as Norman Thomas HS. In other cases programs are offered within zoned schools. In all cases, the Education Option programs are open to students from the whole city or an entire orough. Special applications are made to these programs just as they are for the Talent and Vocational High Schools

- A tally of the percent of students responding to the choices of each question for the whole sample and for those scheduled to attend their zoned school, those scheduled to attend an Education Options Program or School, and those scheduled to attend a Vocational High school.
- An analysis of the differences in responses among those scheduled to attend their zoned school, those scheduled to attend an Education Option School or Program and those scheduled to attend a Vocational High School.
- A tally of the percent of Triplet members (by Targets, Vocational Controls and Academic Controls) responding to the choices of each question.
- An analysis of the differences in responses among Targets, Vocational Controls and Academic Controls.
- A measure of the disaffection among Targets, Vocational Controls and Academic Controls.

Applications, Acceptances, Rejections, and Decisions

In June 1976, 67,294 students were promoted from the final grade of their Intermediate or Junior High Schools city-wide. This included 36,347 eighth grade promotions and 32,734 ninth grade promotions. (This figure does not include eighth graders promoted in a 7-8-9 Junior High School. It does include special progress classes.) Of these, 14,666 were scheduled for the September 1976 opening register of the Vocational High Schools: 8,645 from eighth grade and 6,021 from ninth grade.

The schools surveyed had a total of 3,956 promotions, 5.7% of the City total. Survey responses and complete IS/JHS application histories had been collected for 2,437 subjects, or 61.6% of the sample surveyed. The respondents, therefore represent 3.5% of the total population of students promoted from the last grade of IS/JHS.

Findings from the Application History portion of the IS/JHS Data Collection Instrument are detailed below. It should be noted that these findings were not based on self-reports of the students, but were culled from the official records of the ten Intermediate/Junior High Schools participating.

The findings are:

- 25% of the sample applied to Vocational High School. They filed an average of 1.29 applications apiece.
- 22.1% of those who applied to Vocational High School were denied admission.

- Of those accepted into a Vocational High School: 4.3% went to a Science School; 3.1% went to a Talent school; 77.9% went to a Vocational High School; 3.1% chose an Education Option Program; 10.9% went to their zoned school; and 0.6% went to private, parochial, or other schools.

- Of those denied admission to a Vocational High School: 86.0% went to their zoned high school; 11.8% went to Education Option Programs and 2.2% went to Science and Talent schools.

- For the entire sample: 5.7% went to a Science School; 1,8% went to a Talent School; 15.7% went to a Vocational High School; 8.0% entered an Education Option Program; 1.0% went to a private, parochial or other school, and 68.0% went to their zoned Academic High School.

Responses to the IS/JHS Survey of Choices by All Subjects

The Survey of Choices (See Appendix A) was administered to all IS/JHS seniors present on a given day in late May or early June. At this point, the high school application process was complete. Students knew not only the results of all their applications, but also which high school they would be attending, either by choice or by default.

Examination of the responses of the 2,437 graduates shows that virtually everyone plans to finish high school, with about three-fourths planning to continue after high school. This does not seem to exclude a desire for occupational training in high school, since only 7.8% of the respondents replied "none" to a question on area of interest in occupational training while in high school. Few students responded positively to knowledge of obtaining occupational training in other than their home school. "Need more information" was the response of 46.9% of the group to this question.

The IS/JHS seniors generally felt they had gotten the most help from their parents or family (43.3%), with the response "no one" (30.3%) coming second.* Nevertheless, more than half the students expressed satisfaction in the questions related to feelings on filling out applications (Q.9): why they were attending a particular high school (Q.12); and feelings about starting high school (Q.13).

Table 7, Responses to the IS/JHS Survey of Choices - All Subjects, details the percentage responding for the entire sample, and the sample broken into those scheduled to attend their zoned, Academic High School, those scheduled to attend an Education Option Program and those scheduled to attend a Vocational High School. (See page 28-29.)

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* It should be noted that this survey was conducted in a period of fiscal retrenchment when guidance personnel in the IS/JHS were the fewest in recent times.

Table 7

Responses to the IS/JHS Survey of Choices
All Subjects

Questions and Answers	% Whole	% Att. Zoned H.S.	% Att. Ed. Op.	% Att. Voc. H.S.
	N=2,437	N=1,656	N=195	N=382
1. How certain of career wanted*				
Very sure	39.5	36.6	46.2	55.2
Think I want to be	24.0	24.2	27.2	16.6
Haven't made up mind	33.4	36.0	24.6	24.9
2. How long plan to stay in school				
Leave as soon as possible	1.0	1.1	1.0	0.3
Finish high school	22.6	23.2	20.0	31.9
Continue after high school	75.7	74.9	77.9	67.3
5. Most important reason for high school application				
Very good education	45.5	44.1	42.0	36.4
Learn occupation	26.6	21.6	36.4	48.7
Friends or relatives go	2.1	2.7	1.0	0.2
Don't know anyone there	2.9	2.8	4.6	3.4
It's neighborhood school	15.3	21.3	6.7	1.3
It's not neighborhood school	0.9	1.1	1.0	0.2
To see if I could get in	1.1	1.2	1.5	0.8
7. Who gave most help				
Parents or family	43.3	43.5	41.5	37.5
Friends	6.2	6.9	6.2	4.7
Guidance Counselor	10.3	8.7	13.3	17.8
Teacher	6.3	5.9	3.6	6.5
Some other adult	1.3	1.0	2.6	2.6
No one	30.3	31.9	30.8	28.5
8. Source of high school information**				
High school directory	60.3	54.3	76.9	73.0
Other printed material	15.1	14.3	13.3	13.6
In classroom	21.1	23.0	13.8	14.4
In assembly	28.4	30.4	11.8	20.7
By talking to counselor	37.5	35.5	43.0	42.7

* For the exact wording of the questions, pelase see Appendix A.
**More than one choice permitted.

Table 7

Responses to the IS/JHS Survey of Choices
All Subjects

Questions and Answers	% Whole	% Att. Zoned H.S.	% Att. Ed. Op.	% Att. Voc.H.S.
	N=2,437	N=1,656	N=195	N=382
9. Feelings on filling out H.S. application				
Knew what I was doing	58.3	54.0	58.5	69.9
Some information but confusing	30.4	32.3	28.2	25.4
Not enough information	9.1	11.0	10.8	3.9
12. Why attending your particular H.S.				
No choice	15.3	20.0	12.8	3.7
Good education	58.6	50.6	56.4	77.0
Not first choice, but okay	23.6	26.5	26.2	18.6
13. Feelings about starting H.S.				
Can't wait	36.6	33.3	36.4	49.0
Okay, but nervous	39.1	39.6	35.4	35.0
Wish it were different H.S.	8.9	10.2	14.4	4.7
It doesn't matter	12.8	14.3	11.3	10.5
14. Interest in occupational training in H.S.				
Clerical/Business	21.0	21.2	23.6	21.7
Mechanics/Construction	21.0	17.6	20.0	40.6
Services to people	25.4	28.0	26.2	19.6
Agriculture	3.9	4.5	4.1	1.0
Arts	13.5	12.3	15.4	9.7
None	7.8	8.2	6.7	3.4
15. Knowledge of availability of training **				
Program in own high school	53.3	48.9	54.4	69.4
After School Bd. of Ed. Prog.	7.9	7.9	7.7	8.4
Shared Instruction Program	4.3	5.0	2.1	3.9
Private School	6.1	6.8	3.6	3.9
Need more information	46.9	49.8	50.3	34.3

Responses to the IS/JHS Survey of Choices By Academic High School, Vocational High School and Education Option Students

The responses to the Survey of Choices questions detailed in the immediately preceeding Table 7 show differences in the frequency of choices of three major groups - those scheduled to attend an Academic High School, those scheduled for an Education Option Program and those planning to attend a Vocational High School. For eight of the questions (1, 2, 5, 7, 9, 12, 13, and 14) a Chi Square measure of significant differences was applied by these three groups. In addition, the same measure was applied by each of the groups versus the other two combined. For example, responses by zoned Academic students versus responses by Education Option and Vocational students combined. The two questions which allowed respondents to choose more than one answer were not subjected to this analysis. The differences and their corresponding levels of significance are given, in Table 8, Analysis of Differences in Response to the IS/JHS Survey of Choices by Academic vs. Education Option vs. Vocational Students. Highly significant levels of difference were found for all of the items examined, but one.

It may be concluded that IS/JHS students about to enter these three high school programs leave their schools in June with different perceptions of the high schools articulation process and different feelings about entering high school in September. (See page 31.)

Responses to the IS/JHS Survey of Choices by the Subjects Selected for Follow-up

From the large group of 2,437, 297 subjects had been selected for follow-up as described in Methodology. There were 99 Triplets, each composed of a Target (T), an Academic Control (A), and a Vocational Control (V). Table 9, Responses to the IS/JHS Survey of Choices by Triplets, shows the frequency of response by each of these groups to the survey questions. (See page 32-33.)

Table 8

Analysis of Differences in Responses to the IS/JHS Survey of Choices by Academic vs. Education Option vs. Vocational Students

	Academic, Ed. Option, & Voc. HS			Academic vs. Ed. Option & Voc. HS			Ed. Option vs. Academic & Voc. HS			Voc. vs. Ed. Option & Academic		
Question	X^2 Calc.	X^2 Crit.	Level of Signifi.	X^2 Calc.	X^2 Crit.	Level of Signifi.	X^2 Calc.	X^2 Crit.	Level of Signifi.	X^2 Calc.	X^2 Crit.	Level of Signifi.
1	35.06	18.45	.001	44.44	13.815	.001	7.65	5.991	.05	41.8	13.815	.001
2	30.28	18.465	.001	5.03	4.605	.1	2.18		NS	13.62	10.6	.005
5	189.33	32.909	.001	186.0	22.4	.001	22.3	18.55	.005	158.58	22.4	.001
7	41.61	29.588	.001	36.02	20.517	.001	5.45		NS	32.94	20.517	.001
9	70.7	18.465	.001	25.36	13.815	.001	.744		NS	32.99	13.815	.001
12	179.51	18.465	.001	123.7	13.815	.001	3.11		NS	173.26	13.815	.001
13	41.37	22.457	.001	23.59	16.268	.001	6.19		NS	35.82	16.268	.001
14*	11.98	9.210	.01	9.96	7.88	.005	.189		NS	11.11	10.827	.001

*In this question, respondents were asked occupational training choice. For this question only, data was treated for all positive choices grouped vs. choice of none.

Table 9

Responses to the IS/JHS Survey of Choices by Triplets

Question and Answer	No. T's	No. A's	No. V's
	N=99	N=99	N=99
1. How certain of career wanted			
Very sure	47	32	49
Think I want to be	16	26	22
Haven't made up mind	27	34	26
2. How long plan to stay in school			
Leave as soon as possible	1	2	0
Finish high school	27	33	34
Continue after High School	70	64	64
5. Most important reason high school application			
Very good education	46	46	37
Learn occupation	32	22	49
Friends or relatives go	3	3	0
Don't know anyone there	4	3	3
It's neighborhood school	5	17	0
It's not neighborhood school	1	3	0
To see if I could get in	0	2	1
7. Who gave most help			
Parents or family	34	36	36
Friends	4	10	2
Guidance Counselor	11	13	18
Teacher	13	10	10
Some other adult	2	1	2
No one	31	28	30
8. Source of high school information**			
High School Directory	51	48	67
Other printed material	7	14	19
In classroom	26	23	16
In assembly	29	30	18
By talking to counselor	49	37	39
9. Feelings on filling out high school application			
Knew what I was doing	56	51	72
Some information but confusing	26	31	21
Not enough information	12	13	5

*For exact wording of question, please see Appendix A

**More than one choice permitted

Table 9 (Cont'd.)

Responses to the IS/JHS Survey of Choices
by Triplets

Questions and Answer	No. T's	No. A's	No. V's
	N=99	N=99	N=99
12. Why attending your particular high school			
No choice	22	14	2
Good education	48	57	74
Not first choice, but okay	26	26	21
13. Feelings about starting high school			
Can't wait	39	35	51
Okay, but nervous	23	39	31
Wish it were different H.S.	20	11	4
It doesn't matter	12	11	12
14. Interest in occupational training in high school			
Clerical/Business	25	19	18
Mechanics/Construction	28	13	44
Services to People	19	37	19
Argiculture	1	3	0
Arts	11	9	13
None	4	9	2
15. Knowledge of availability of training**			
Program in own high school	44	40	68
After School Bd. of Ed. Prog.	8	9	9
Shared Instruction Program	3	12	2
Private School	10	4	6
Need more information	50	54	35

**More than one choice permitted

The Chi Square analysis of difference was applied to the survey question responses to Questions 1, 2, 5, 7, 9, 12, 13, and 14 by the three sub-groups T's, A's, and V's. For the following questions a significant difference was found: 5 - *Reason for high school application;* 6 - *Feeling of knowing what one was doing in high school applications;* 12 - *Reason for choosing high school attending;* and 13 - *Feelings about going to high school.* Table 10, Analysis of Differences in Responses to the IS/JHS Survey of Choices by Triplets, details the Chi Square analysis. (See page 35.)

Measures of Dissafection

In examining the responses of the subjects selected for follow-up, the Triplets, a particular measure of disaffection was used. It was hypothesized that the Targets would "NOT KNOW" their applications, the responses received and the school they were scheduled to attend, more than the A's and V's:

- Survey Question 3 asked students the kind of high school applications they had made. "Knowing" was defined for T's and V's as a positive response to Vocational High Schools and for A's as no response.
- Survey Question 10 asked the kind of high school in which they were accepted. "Knowing" was defined for T's and A's as no positive response to Vocational High Schools and for V's as a positive response.
- Survey Question 11 asked the name of the high school. "Knowing" was defined as supplying the answer which corresponded to Junior High School records as substantiated by the high schools themselves.

The results as shown in Table 11, IS/JHS Survey Measures of Disaffection, show a highly significant difference for all three criteria of disaffection. The factor of "not knowing" is dependent upon the denial of high school choice as defined in the T's, A's and V's. There is only one chance in a thousand that this occured by chance. Further, Table 12, Measures of Disaffection - Comparison of Differences Between Collapsed Groups, shows the level of significance in differences when the groups are "collapsed" so that each group is measured against the other two . In other words, the hypothesis that students denied admission would "forget" or "deny" their application experience, and would show less certainty about the school they were to attend was borne out. (See pages 36-37.)

Table 10

Analysis of Differences in Responses to the IS/JHS Survey of Choices by Triplets

Question	T's A's and V's X^2 Calc.	X^2 Crit.	Level of Signifi.	T vs. AV X^2 Calc.	X^2 Crit.	Level of Signifi.	A vs. TV X^2 Calc.	X^2 Crit.	Level of Signifi.	V vs. TA X^2 Calc.	X^2 Crit.	Level of Signifi.
1	7.53		NS									
2	4.01		NS									
5	41.11	28.3	.005	4.25		NS	30.69	22.45	.001	26.97	22.45	.001
7	9.41		NS									
9	8.46		NS	1.42		NS	4.69		NS	8.82	7.824	.02
12	22.53	14.86	.005	13.95	13.815	.001	.558		NS	19.29	13.815	.001
13	18.50	18.168	.02	12.37	11.34	.01	4.81		NS	10.54	9.8	.02
14*	5.84		NS									

*In this question, respondents were asked occupational training choice. For this question only, data was treated for all positive choices grouped vs. choice of none.

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Table 11

IS/JHS Survey Measures of Disaffection

A. High School Applications

	T's	A's	V's	Total
	N=99	N=99	N=99	N=297
No. knew	52	81	89	222
No. did not know	47	18	10	75

X^2 calc = 40.56

X^2 crit (df = 2 x = .001) = 13.815

This difference is significant at the .001 level.

B. High School Acceptances

	T's	A's	V's	Total
	N=99	N=99	N=99	N=297
No. knew	74	96	85	255
No. did not know	25	3	14	42

X^2 calc = 20.12

This difference is significant at the .001 level.

C. High School Attending

	T's	A's	V's	Total
	N=99	N=99	N=99	N=297
No. knew	54	72	90	216
No. did not know	45	27	9	81

X^2 calc = 33

This difference is significant at the .001 level.

Table 12

Measures of Disaffection: Comparison of Differences Between Collapsed Groups

χ^2 crit = 10.827
(df = 1, x = .001)

	T vs. AV	A vs. TV	V vs. TA
	χ^2 Calc.	χ^2 Calc.	χ^2 Calc.
Applications	38.85*	3.93	18.06*
Acceptances	15.09*	15.09*	0
School Attending	24.75*	0	24.75

*These differences are significant at the .001 level

CHAPTER 5

HIGH SCHOOL RETENTION AND PERFORMANCE

For five terms in high school, data were collected on high school retention and performance for the 297 subjects of the three matched sub-groups: Targets (T's), Vocational Controls (V's) and Academic Controls (A's).

Retention had been defined as continuing in any New York City Public High School. Therefore, not only had student discharges from the system been monitored, but inter-high school movement. When students changed high schools, as many did, their records were sought from the new school.

Performance was measured for four criteria: the grade point average, a pass/taken ratio, a ratio of subjects passed to subjects attemped, attendance and punctuality.

The results of the analysis of data are presented in this section. For each term and then for the sum of five years, retention is presented first, followed by the performance data: GPA, PTR, Attendance and Punctuality. For each of these performance data, results of an analysis of variance and an analysis of covariance are given for all complete Triplets. A Triplet remained complete when all of its members - the matched T and A and V were retained. Following the results of those analysis, a frequency distribution of the data is given. The frequency distribution includes the performance of all students retained within each sub-group, not just the complete Triplet members.

Term 1 - Fall 1976

In general, in Term 1, the Vocational Controls showed the strongest performance. They had the highest GPA and PTR and the fewest days absent. These differences were all statistically significant ($P \leq .05$). The most striking difference between the V's and the T's was in retention. Eighteen T's dropped out. All V's were retained. Those T's who were retained did less well than the V's but better than the A's on GPA, PTR, and attendance.

Retention

The greatest movement out of the schools was by members of the Target group. Of these, 18 dropped out of high school, 3 moved to a vocational high school, and 4 to other Academic/Comprehensive High Schools. Of the Academic Controls, 6 dropped out; 2 moved to a Vocational High School, and 2 to other Academic High Schools. None of the Vocational Controls dropped out, but 4 moved to Academic High Schools.

Table 13, Frequency Distribution of Term 1 Retention by All Triplets, breaks the number of dropouts into three sub-groups, based on the official reason for discharge on the high school record: Those who moved out of New York City, those who transferred to an Alternative school, and the remainder-those who were average, went to work, or were "not found."

Table 13

Frequency Distribution of Term 1 Retention
by All Triplets

Destination		Targets N=99	Vocational Targets N=99	Academic Controls N=99
Not Retained	Dropped out	9	0	4
	Moved NYC	6	0	2
	ALT HS	3	0	0
Retained	Moved to VHS	3	0	2
	Moved to A/C HS	4	4	2
	Same School	74	95	89

Grade Point Average

The means of the grade point averages for the three sub-groups of Triplets were 64.43 for Targets; 69.83 for the Vocational Controls and 62.73 for the Academic Controls. There were 77 members in each sub-group. Analysis of variance indicated that this was a statistically significant difference (F=6.283, df=2/227, P=.002). A Scheffe procedure to test for homogeneous subsets indicated that the Vocational Controls were significantly different from the Academic Controls and Targets. (P=.05)

Analysis of covariance was performed on the same data with IS/JHS GPA as the covariate. This was done to control for variance attributable to intial differences in performance. The analysis of covariance as reported in Table 14 also indicated a significant difference in GPA after controlling for IS/JHS performance. It should be noted that these analyses were performed only on whole Triplet groups.

Table 14

Analysis of Covariance Summary Table for GPA Term 1

Source	SS	df	MS	F	Signifi. of F
GPA JHS	7,093.51	1	7,093.51		
GPA Term 1	1,461.11	2	730.56	5.21	0.006
Error	31,245.24	223	140.11		
Total	39,799.86	226	176.10		

Examination of the performance of all students retained at the end of Term 1 shows the same relative placement of group means: Targets=64.63; V's=69.25; A's=64.10. Table 15 details a frequency distribution of these students according to Grade Point Average.

Table 15

Frequency Distribution of GPA Term 1
All Subjects Retained

GPA	Targets		Vocational Controls		Academic Controls	
	Freq.	Cum. Pct.	Freq.	Cum. Pct.	Freq.	Cum. Pct.
up to 49.9	10	12	5	5	11	12
50.0- 59.9	13	28	6	11	23	37
60.0- 64.9	12	43	20	31	12	49
65.0- 69.9	13	59	27	59	12	62
70.0- 74.9	20	84	11	70	14	77
75.0- 79.9	7	93	15	85	12	90
80.0- 84.9	3	96	6	91	5	96
85.0- 89.9	2	99	8	99	4	100
90.0-100.0	1	100	1	100	0	100
N=	81		99		93	
Mean=	64.63		69.25		64.10	

Pass/Taken Ratio

The Pass/Taken Ratio, is based on the same raw data as the GPA. The means of the group were: T's=.65; V's=.77; A's=.56. There were 77 subjects in each of the subgroups. Analysis of variance showed the difference was statistically significant (F=7.889, df=2/227, P=.0005)

The Scheffe procedure (P=.05) showed that the A's and T's formed a homogeneous subset as did the T's and V's.

The analysis of covariance confirmed the significance of the variable PTR for Term 1 when controlling for variance attributable to the IS/JHS Pass/Taken Ratio. The results are reported in Table 16.

Table 16

Analysis of Covariance Summary Table
for Pass/Taken Ratio Term 1

Source	SS	df	MS	F	Signifi. of F
PTR JHS	1.02	1	1.02		
PTR Term 1	1.52	2	.76	7.98	0.000
Error	21.18	223	.10		
Total	23.71	226	.11		

The frequency distribution of the Pass/Taken Ratio for all subjects combined again indicates a descending pattern of performance: V's, T's, A's. This is detailed in Table 17. (See page 42.)

Attendance

The mean number of days absent for each of the Triplet subgroup members was: T=13.75, V=9.06, A=16.01. Analysis of variance showed this to be a significant difference (F=3.687, df=2/225, P=.027)

The analysis of covariance controlling for IS/JHS days absent also showed a significant difference as presented in Table 18.

Table 17

Frequency Distribution of Pass/Taken Ratio Term 1
All Subjects Retained

Pass/ Taken Ratio	Targets		Vocational Controls		Academic Controls	
	Freq.	Cum. Pct.	Freq.	Cum. Pct.	Freq.	Cum. Pct.
0 - .25	14	17	8	8	22	24
.26- .50	13	33	6	14	11	35
.51- .75	17	54	31	46	19	56
.76-1.00	37	100	54	100	41	100
N=	81		99		93	
Mean=	.65		.76		.62	

Table 18

Analysis of Covariance Summary
Table for Days Absent Term 1

Source	SS	df	MS	f	Signifi. of F
Days ABS JHS	1,448.32	1	1,448.32		
Days ABS Term 1	1,630.32	2	815.15	3.20	0.043
Error	56,779.52	223			
Total	59,858.15	226	264.85		

The frequency distribution of days absent for all subjects retained at the end of Term 1 is presented in Table 19. It may be noted that the V's were absent least frequently, the A's most frequently and the T's fell between.

Table 19

Frequency Distribution of Days Absent
Term 1 All Subjects Retained

Days Absent	Targets		Vocational Controls		Academic Controls	
	Freq.	Cum. Pct.	Freq.	Cum. Pct.	Freq.	Cum. Pct.
0	2	2	10	10	6	7
1-4	21	28	30	42	19	27
5-9	20	53	18	60	22	52
10-19	22	80	28	90	22	76
20-29	10	93	7	97	8	85
30-39	1	94	1	92	5	90
40 or more	5	100	2	100	9	100
N=	81		96		91	
Mean=	13.74		9.46		15.71	

Punctuality

The performance of the Triplet sub groups on punctuality in Term 1 did not follow the pattern of the other three high school measures. The Targets had the fewest days late, 6.76, followed by the Vocational Controls, 7.05, and then the Academic Controls, 8.36. These differences were not statistically significant in either analysis of variance or analysis of covariance.

The frequency distribution of days late for all subjects retained, presented in Table 20, also shows the most punctual performance among Targets and the least among Academic Controls.

Table 20

Frequency Distribution of Days Late Term 1
All Subjects Retained

Days Late	Targets Freq.	Targets Cum. Pct.	Vocational Controls Freq.	Vocational Controls Cum. Pct.	Academic Controls Freq.	Academic Controls Cum. Pct.
0	24	30	17	17	32	35
1-4	27	64	31	50	28	66
5-9	12	79	23	74	8	75
10-19	9	90	16	91	12	88
20-29	4	95	8	99	3	91
30-39	1	96	1	100	3	95
40 or more	3	100	0	100	5	100
N=	80		96		91	
Mean=	6.53		6.79		8.18	

Term 2 - Spring 1977

In the second term, the relative performances of the T's, V's and A's remained the same, with the Vocational Controls having the highest GPA and PTR and the fewest days absent, the Targets following on these three measures, and the Academic Controls coming last. In the second term, none of the differences was statistically significant. The number of dropouts in the second term was relatively similar in all three groups. However, the number retained at the end of the term was lowest for the Targets because of first term attrition.

Retention

The movement out of the New York City Public High Schools was similar in the three groups, as detailed in Table 21. However, the number retained by the end of the term was lowest for the Targets because of combined attrition on Terms 1 and 2. One might note the relatively greater movement of V's within the system.

Table 21

Frequency Distribution of Term 2 Retention by Subjects Enrolled at Start of Term

Destination		Target N=81	Vocational N=99	Academic N=93
Not Retained	Dropped out	3	3	4
	Moved NYC	1	1	1
	ALT HS	3	2	3
Retained	Moved Voc HS	0	1	0
	Moved AC HS	1	5	0
	Same School	73	87	85

Grade Point Average

Neither analysis of variance nor of covariance showed statistical significance in the difference in the means of the whole Triplet subgroups: T=66.87, V=68.94, A=64.19.

Table 22, Frequency Distribution of Term 2 Grade Point Average - All Subjects Retained, shows a similar ordering of the groups.

Pass/Taken Ratio

Neither analysis of variance nor of covariance showed statistical difference in the pass taken ratio means of the whole triplet subgroups: T=.73, V=.73, A=.63.

Table 23, The Frequency Distribution of Term 2 Pass/Taken Ratio - All Subjects Retained, shows a slightly greater difference between T's and V's than the difference in the whole triplet subgroups.

Table 22

Frequency Distribution of GPA Term 2
All Subjects Retained

GPA	Targets Freq.	Cum. Pct.	Vocational Controls Freq.	Cum. Pct.	Academic Controls Freq.	Cum. Pct.
up to 49.9	9	12	10	11	19	22
50.0- 59.9	12	29	9	21	8	31
60.0- 64.9	6	37	9	30	11	44
65.0- 69.9	10	51	16	48	16	63
70.0- 74.9	17	74	19	68	9	73
75.0- 79.9	12	90	14	84	13	88
80.0- 84.9	4	96	7	91	5	94
85.0- 89.9	2	99	6	98	3	98
90.0-100.0	1	100	2	100	2	100
N=	73		92		86	
Mean=	65.19		67.28		63.39	

Table 23

Frequency Distribution of Pass/Taken Ratio Term 2
All Subjects Retained

GPA	Targets Freq.	Cum. Pct.	Vocational Controls Freq.	Cum. Pct.	Academic Controls Freq.	Cum. Pct.
0- .25	13	18	14	15	21	24
.26- .50	10	32	9	25	6	31
.51- .75	9	44	15	41	16	50
.76-1.00	41	100	54	100	43	100
N=	73		92		86	
Mean=	.69		.72		.62	

Attendance

Neither analysis of variance nor of covariance showed significant statistical differences in the mean number of days absent of whole Triplet subgroups: T=13.69, V=12.93, A=18.63.

The frequency distribution of days absent in Term 2 for all subjects retained followed a pattern similar to that of subgroup members. This is detailed in Table 24.

Table 24

Frequency Distribution of Days Absent Term 2
All Subjects Retained

Days Absent	Targets		Vocational Controls		Academic Controls	
	Freq.	Cum. Pct.	Freq.	Cum. Pct.	Freq.	Cum. Pct.
0	4	6	7	8	4	5
1- 4	17	30	22	32	19	28
5- 9	19	57	20	54	18	49
10-19	15	79	25	81	20	73
20-29	5	86	8	90	4	78
30-39	6	94	1	91	4	83
40 or more	4	100	8	100	14	100
N=	70		91		83	
Mean=	14.66		13.42		18.65	

Punctuality

The number of days late did not follow the pattern of the other three measures. Although neither analysis of variance nor of covariance showed statistical significance, the T's and A's seemed closer to each other and best in performance with the V's having the greatest number of days late. The mean number of days late for each of the whole Triplet subgroups is: T=6.83, V=10.39, and A=6.55.

The frequency distribution for days late in Term 2, for all subjects retained, is reported in Table 25.

Table 25

Frequency Distribution of Days Late Term 2
All Subjects Retained

Days Late	Targets Freq.	Targets Cum. Pct.	Vocational Controls Freq.	Vocational Controls Cum. Pct.	Academic Controls Freq.	Academic Controls Cum. Pct.
0	23	33	18	20	39	49
1- 4	20	62	27	49	17	70
5- 9	11	78	15	66	5	76
10-19	9	91	17	85	9	88
20-29	3	96	6	91	4	92
30-39	0	96	3	95	1	94
40 or more	3	100	5	100	5	100
N=	69		91		80	
Mean=	6.39		9.48		7.43	

Term 3 - Fall 1977

The general patterns of performance established in the first year continued. The retention of the Targets remained poorest. On the other measures, with the exception of punctuality, the Vocational Controls were generally strongest, the Targets snowed the next best performance, and the Academic Controls had the lowest performance.

Retention

The Targets, who began the second year, Term 3, with 74 students retained lost 6. The Vocational Controls, which began with 93, lost 5; and the Academic Controls, which began the year with 85 lost 4. Thus, while the difference in attrition term by term is less, the net effect is still a much lower rate of retention by the Targets. Table 26 details Retention and movement in Term 3.

Table 26

Frequency Distribution of Term 3 Retention
by Subjects Enrolled at Start of Term

Destination		Targets N=94	Voc. Con. N=93	Ac. Con. N=85
Not Retained	Dropped out	4	1	2
	Moved NYC	2	4	1
	Alt HS	0	0	1
Retained	Moved Voc. HS	0	0	0
	Moved Ac. HS	2	3	3
	Same School	66	85	78

Grade Point Average

Differences in Term 3 GPA were not statistically significant in either analysis of variance or of covariance. However, the means of the whole Triplet sub-group GPA's continued the pattern established in Terms 1 and 2: T=64.99, V=68.92, A=64.80.

The Frequency Distribution of Term 3 - GPA All Subjects Retained, Table 27, shows slightly greater differences in the same pattern. (See page 50.)

Pass/Taken Ratio

The respective Pass/Taken Ratio for whole Triplet subgroups of T=.62, V=.75, A=.65 again did not reach statistical significance using analysis of variance or covariance.

The frequency distribution for all subjects retained in Term 3 showed the same ordering as above. This is detailed in Table 28.

Table 27

Frequency Distribution of GPA Term 3
All Subjects Retained

GPA	Targets Freq.	Targets Cum.Pct.	Vocational Controls Freq.	Vocational Controls Cum.Pct.	Academic Controls Freq.	Academic Controls Cum.Pct.
up to 49.9	11	16	11	13	16	20
50.0- 59.9	7	27	10	24	13	36
60.0- 64.9	8	39	10	36	6	43
65.0- 69.9	13	58	15	53	9	54
70.0- 74.9	8	70	10	64	17	75
75.0- 79.9	8	82	17	84	8	85
80.0- 84.9	7	93	8	93	4	90
85.0- 89.9	5	100	4	98	6	98
90.0- 100.0	0	100	2	100	2	100
N=	67		87		81	
Mean=	65.33		67.11		64.66	

Table 28

Frequency Distribution of Pass/Taken Ratio Term 3
All Subjects Retained

Pass/ Taken Ratio	Targets Freq.	Targets Cum. Pct.	Vocational Controls Freq.	Vocational Controls Cum. Pct.	Academic Controls Freq.	Academic Controls Cum. Pct.
0- .25	11	16	13	15	19	23
.26- .50	11	33	11	28	11	37
.51- .75	8	45	13	43	7	46
.76-1.00	37	100	50	100	44	100
N=	67		87		.64	
Mean=	.66		.72		81	

Attendance

The difference in the number of days absent for whole Triplet subgroups in Term 3 reached statistical significance using analysis of variance. The T's were absent 12.92 days; the V's 9.43 days; and the A's 18.22 days. (F=3.040, dF=2/141, P<.05).

Controlling for initial differences, using IS/JHS Days Absent as the covariate produced a non-significant result.

The Frequency Distribution of Days Absent Term 3 - All Subjects Retained is given in Table 29.

Table 29

Frequency Distribution of Days Absent Term 3
All Subjects Retained

Days Absent	Targets		Vocational Controls		Academic Controls	
	Freq.	Cum.Pct.	Freq.	Cum.Pct.	Freq.	Cum.Pct.
0	3	5	6	7	5	6
1- 4	18	33	25	37	20	32
5- 9	14	56	18	59	18	54
10-19	12	75	22	86	18	77
20-29	7	86	6	93	4	82
30-39	4	92	3	96	6	90
40 or more	5	100	3	100	8	100
N=	63		83		79	
Mean=	14.51		11.24		16.95	

Punctuality

The performance on this variable again differed from the others for whole Triplet subgroups. The T's were late the least, 5.38 days; the V's the most, 11.14 days; and the A's were absent 6.08 days. The analysis of variance showed the difference to be significant. (F=3.30, dF=2/139, P<.05)

Analysis of covariance, using IS/JHS Days Late, as the covariate also reached the required level of statistical significance, as reported in Table 30.

Table 30

Analysis of Covariance Summary Table
for Days Late Term 3

Source	SS	df	MS	F	Signif. of F
Days Late JHS	642.40	1	642.40		
Days Late Term 3	908.06	2	454.03	3.48	0.034
ERROR	17,096.61	137	130.63		
TOTAL	19,447.07	140	138.91		

The frequency distribution for punctuality for all subjects retained in Term 3 is reported in Table 31.

Table 31

Frequency Distribution of Days Late Term 3
All Subjects Retained

Days Late	Targets Freq.	Targets Cum.Pct.	Vocational Controls Freq.	Vocational Controls Cum.Pct.	Academic Controls Freq.	Academic Controls Cum.Pct.
0	25	42	16	19	31	41
1- 4	15	67	21	44	22	70
5- 9	9	82	20	68	9	82
10-19	5	90	13	83	6	89
20-29	2	93	6	90	2	92
30-39	1	95	5	96	1	93
40 or more	3	100	3	100	5	100
N=	60		84		76	
Mean=	6.23		9.55		6.76	

Term 4 - Spring 1978

In Term 4, attrition from the Targets' already reduced group was much greater than that of the Vocational Controls and slightly greater than that of Academic Controls.

The high school performance of the three Triplet subgroups remained close to each other with T's generally highest, V's second, and A's third. The only significant difference was in punctuality with the T's performing best, the A's second and the V's third.

Retention

At the start of Term 4, 68 Targets were enrolled; at the end of the Term, 62 remained. In the same period, 88 Vocational Controls began the Term and 87 remained. 81 Academic Controls began the Term, 76 remained. Table 32 details the destinations of these retained those not retained.

Table 32

Frequency Distribution of Term 4 Retention
by Subjects Enrolled at Start of Term

Destination		Targets N=68	Voc. Con. N=88	Ac. Con. N=81
Not Retained	Dropped out	5	1	3
	Moved NYC	0	0	1
	Alt. HS	1	0	1
Retained	Moved Voc. HS	0	0	0
	Moved Ac HS	3	3	1
	Same School	59	84	75

Grade Point Average

The mean of term 4 GPA's for whole triplet subgroups showed the T's and V's very close to each other and the A's slightly lower. T=65.37, V=65.91, A=63.42. The differences were not statistically significant in either analysis of variance or covariance.

Table 33 details the frequency distribution of Term 4 Grade Point Average - All Subjects Retained. It may be noted that the Targets did better than either the Vocational or Academic Controls.

Table 33

Frequency Distribution of GPA Term 4
All Subjects Retained

	Targets		Vocational Controls		Academic Controls	
GPA	Freq.	Cum. Pct.	Freq.	Cum. Pct.	Freq.	Cum. Pct.
up to 49.9	10	16	14	16	20	26
50.0- 59.9	4	23	11	29	7	36
60.0- 64.9	7	34	13	44	7	45
65.0- 69.9	7	45	10	56	8	55
70.0- 74.9	10	61	8	65	16	76
75.0- 79.9	12	81	14	81	8	87
80.0- 84.9	9	95	11	94	6	95
85.0- 89.9	2	98	1	95	3	99
90.0-100.0	1	100	4	100	1	100
N=	62		86		76	
Mean=	66.86		65.35		63.15	

Pass/Taken Ratio

For the whole Triplet subgroups the means for Pass/Taken Ratio showed a small difference with the T's strongest at .70, the V's next at .68, and the A's third at .64. These differences were not statistically significant.

The frequency distribution of Pass/Taken Ratio for all subjects retained in Term 4, detailed in Table 34, repeats the pattern above.

Table 34

Frequency Distribution of Pass/Taken Ratio Term 4
All Subjects Retained

Pass/ Taken Ratio	Targets Freq.	Targets Cum. Pct.	Vocational Controls Freq.	Vocational Controls Cum. Pct.	Academic Controls Freq.	Academic Controls Cum. Pct.
0- .25	12	19	18	21	19	25
.26- .50	4	26	11	34	7	34
.51- .75	6	35	8	43	10	47
.76-1.00	40	100	49	100	40	100
N=	62		86		76	
Mean=	.71		.67		.63	

Attendance

A comparision of days absent in Term 4 for whole Triplet subgroups showed the T's also strongest on this criterion: T=15.91, V=17.33, A=20.32. These differences did not reach statistical significance.

However, the pattern was maintained in an examination of the performance of all subjects retained. This is detailed in Table 35, Frequency Distribution of Days Absent Term 4 - All Subjects Retained. (See page 56.)

Punctuality

Both analysis of variance and analysis of covariance showed statistically signifcant differences in whole triplet subgroup punctuality for Term 4. The T's were late 3.17 times, the A's 5.14 times, and the V's 9.60 times. (F=5.46, dF=2/126, P<.005). The results of analysis of covariance are reported in Table 36.

When the performance of all subjects retained was examined, detailed in Table 37, the T's and A's showed less difference. (See page 57).

Table 35

Frequency Distribution of Days Absent Term 4
All Subjects Retained

Days Absent	Targets Freq.	Targets Cum. Pct.	Vocational Controls Freq.	Vocational Controls Cum. Pct.	Academic Controls Freq.	Academic Controls Cum. Pct.
0	1	2	9	11	3	4
1- 4	13	23	18	33	12	20
5- 9	16	49	21	58	24	51
10-19	15	74	15	76	19	76
20-29	10	90	6	83	1	78
30-39	1	92	2	86	3	82
40 or more	5	100	12	100	14	100
N=	61		83		76	
Mean=	14.61		17.25		20.40	

Table 36

Analysis of Covariance Table
for Days Late Term 4

Source	SS	df	MS	F	Signif. of F
Days Late JHS	37.16	1	37.16		
Days Late Term 4	982.24	2	491.12	5.78	0.004
ERROR	10,622.38	125	84.79		
TOTAL	11,641.79	128	90.95		

Table 37

Frequency Distribution of Days Late Term 4
All Subjects Retained

Days Late	Targets		Vocational Controls		Academic Controls	
	Freq.	Cum. Pct.	Freq.	Cum. Pct.	Freq.	Cum. Pct.
0	23	40	19	23	32	43
1- 4	18	71	18	45	22	72
5- 9	8	84	20	69	7	81
10-19	5	93	13	84	4	87
20-29	1	95	7	93	5	93
30-39	0	95	4	98	3	97
40 or more	3	100	2	100	2	100
N=	58		83		75	
Mean=	5.52		9.07		5.87	

Term 5 - Fall 1978

The Vocational Controls had greater attrition in Term 5 than in any other period, with 14 students dropping out. However, they still had more students by the end of Term 5 than either of the other two groups.

Performance among the three groups on GPA, PTR, and attendance was similar with the V's again performing generally best, and the T's second. Punctuality was again the only statistically significant difference with the T's and A's showing far fewer days late than the V's.

Retention

Vocational Controls showed a sharp drop in retention, losing 14 of the 87 students who began Term 5. Academic Controls lost 8 of 76 students, and Vocational Controls lost the least number, 4 of 62 students.

The destination of retained and not retained students is detailed in Table 38.

Table 38

Frequency Distribution of Term 5 Retention
by Subjects Enrolled At Start of Term

Destination		Targets N=62	Voc. Con. N=87	Ac. Con. N-76
Not Retained	Dropped out	3	11	5
	Moved NYC	1	2	1
	Alt HS	0	1	2
Retained	Moved Voc. HS	0	0	0
	Moved Ac. HS	2	3	3
	Same School	56	70	65

Grade Point Average

In Term 5, V's performed best, with a mean GPA of 69.55; T's performed second with a mean GPA of 68.22, and A's performed third with a mean GPA of 67.78. These means for whole triplet subgroups did not prove to be statistically significant by either analysis of variance or covariance.

Table 39, Frequency Distribution of Term 5 Grade Point Average - All Subjects Retained, shows the same pattern of group performance. (See page 59).

Pass/Taken Ratio

The Pass/Taken Ratio also showed no statistically significant differences. In the whole Triplet subgroups, the V's did best, .77; A's second best, .74; and the T's third, .73.

In the frequency distribution, Table 40, of Pass Taken Ratios for all subjects retained, the pattern is repeated.

Table 39

Frequency Distribution of GPA Term 5
All Subjects Retained

GPA	Targets Freq.	Targets Cum Pct	Vocational Controls Freq.	Vocational Controls Cum Pct	Academic Controls Freq.	Academic Controls Cum Pct
up to 49.9	11	19	8	11	8	12
50.0- 59.9	3	24	6	19	9	25
60.0- 64.9	5	33	9	32	6	34
65.0- 69.9	4	40	9	44	11	50
70.0- 74.0	13	62	15	64	12	68
75.0- 79.9	8	76	8	75	13	87
80.0- 84.9	12	97	12	92	3	91
85.0- 89.9	2	100	3	96	4	97
90.0-100.0	0	100	3	100	2	100
N=	58		73		68	
Mean=	67.87		69.13		67.30	

Table 40

Frequency Distribution of Pass/Taken Ratio Term 5
All Subjects Retained

Pass/ Taken Ratio	Targets Freq.	Targets Cum.Pct.	Vocational Controls Freq.	Vocational Controls Cum.Pct.	Academic Controls Freq.	Academic Controls Cum.Pct.
0- .25	10	17	9	12	8	12
.26- .50	5	26	8	23	8	24
.51- .75	8	40	10	37	10	38
.76-1.00	35	100	46	52	42	100
N=	58		73		68	
Mean=	.71		.75		.73	

Attendance

While no statistically significant differences in mean days absent for whole triplet subgroups was found, the V's were absent the fewest days 9.59; the A's the greatest number of days, 21.06; and the T's fell between, 14.47 days.

Table 41 shows the frequency distribution of days absent in term 5 for all subjects retained. In this distribution, the V's continue to have the fewest days absent but the T's now show better attendance than the A's.

Table 41

Frequency Distrubition of Days Absent Term 5
All Subjects Retained

Days Absent	Targets		Vocational Controls		Academic Controls	
	Freq.	Cum. Pct.	Freq.	Cum. Pct.	Freq.	Cum. Pct.
0	5	9	4	5	4	6
1- 4	14	33	21	34	16	29
5- 9	15	59	18	59	11	46
10-19	11	78	22	89	22	78
20-29	4	84	3	93	7	88
30-39	5	93	0	93	0	88
40 or more	4	100	5	100	8	100
N=	58		73		68	
Mean=	15.02		11.96		17.44	

Punctuality

Analysis of variance showed statistical significance in the mean number of days late for the whole Triplet subgroups in Term 5. As in previous terms, the T's and A's were similar with 4.97 and 4.16 days late respectively; while the V's were late an average of 14.22 days. (F=6.45, dF=2/93, P=0.002)

Analysis of covariance, controlling for previous lateness with IS/JHS days late, also reached statistical significance as shown in Table 42.

Table 42

Analysis of Covariance Summary Table
for Days Late Term 5

Source	SS	df	MS	F	Signif. of F
Days Late JHS	20.42	1	20.42		
Days Late Term 5	1980.73	2	990.37	6.32	0.003
ERROR	14423.12	92	156.77		
TOTAL	16424.27	95	172.89		

The frequency distribution of days late for all subjects shows a similar pattern of similarity between the T's and A's as opposed to the V's. This is detailed in Table 43.

Table 43

Frequency Distribution of Days Late Term 5
All Subjects Retained

Days Late	Targets		Vocational Controls		Academic Controls	
	Freq.	Cum. Pct.	Freq.	Cum. Pct.	Freq.	Cum. Pct.
0	29	50	12	16	33	49
1- 4	12	71	22	47	16	73
5- 9	5	79	18	71	4	79
10-19	5	88	11	86	8	91
20-29	2	91	7	96	3	96
30-39	3	97	0	96	0	96
40 or more	2	100	3	100	3	100
N=	58		73		67	
Mean=	6.09		9.63		6.00	

Summary of Retention

In June, 1976, 297 students graduated from their Intermediate/Junior High Schools and were scheduled to enter New York City High Schools. Two and a half years later, one-third of these students were no longer in high school. Only 55.2% were in the same high school they had originally entered.

As hypothesized, the Targets dropped out at a higher rate and earlier, than either the Vocational or Academic Controls. By the end of five terms, 58.5% of the Targets were retained, 68.7% of the Academic Controls and 73.7% of the Vocational Controls. Table 44, Frequency Distribution of Two and a Half Years Retention by All Triplets, details the destination of those not retained as well as interschool movement of those retained.

Targets had the highest dropout rate in Term 1. This gradually reduced in the next two years. There were 24 target dropouts in Term 1, and 6 in Term 5.

The highest period of attrition of Vocational Controls was later in high school. There were 17 V dropouts in Term 5, as compared to none in Term 1. Vocational Controls had 18 inter high school transfers, the greatest number for any of the three sub-groups.

Academic Controls had less dramatic changes. Their lowest dropout rate was in Term 4, with an attrition of 6 students, as opposed to their highest period, Term 5, in which 11 students dropped out. (See page 63.)

Summary of Performance

In the Summary of Performance, cumulative measures of each behavior are presented and discussed for the subgroups of whole Triplets and then for all subjects retained for five Terms. It may be noted that there were 32 whole Triplets in the cumulative analysis, the pattern of attrition having reduced them from the original 99.

Following the cumulative analysis, high and low points and patterns of performance are examined for the Targets the Vocational Controls and the Academic controls.

Table 51, Data Summary from IS/JHS through High School - Performance Means, Anova, Ancova, Adjusted Means, which appears at the end of this section summarizes the whole triplet performance for IS/JHS, for each term, and cumulatively for two and a half years of high school. It repeats the means for subgroups as well as the level of significance reached in anova and/or ancova. Where the analysis of covariance was significant, adjusted means for each subgroup are given.

Table 44

Frequency Distribution of Two and a Half Years Retention by All Triplets

Destination		Targets N=99	Voc. Con. N=99	Ac. Con. N=99
Not Retained	Dropped out	24	16	18
	Moved NYC	10	7	6
	Alt. HS	7	3	7
Cum % Not Retained		41.4	26.3	31.3
Retained	Moved To Voc. HS	2[1]	0[3]	1[5]
	Moved To Ac. HS	10[2]	15[4]	7[6]
	Same School	46	58	60
% Retained in Original School		46.5	58.5	60.7
Cum % Retained		58.5	73.7	68.7

Footnotes

1. One additional subject moved to a vocational high school and later dropped out.
2. One of these students moved twice.
3. One additional subject moved to another vocational high school, then dropped out.
4. Three additional students moved to academic high school, then dropped out.
5. One additional student moved to a vocational high school, then dropped out.
6. One of these students moved twice.

Cumulative Grade Point Average

The cumulative GPA means for whole Triplet subgroups was 67.94 for Targets, 71.98 for Vocational Controls, and 67.98 for Academic Controls. While this difference was not statistically significant, it does conform to the pattern of performance generally seen for those students retained. The Vocational Controls performed highest, followed by the Targets, and then the Academic Controls.

The frequency distribution of cumulative GPA's for all subjects retained five terms, Table 45 shows the same order of performance.

Table 45

Frequency Distribution of Cumulative GPA
All Subjects Retained 5 Terms

GPA	Target		Vocational Controls		Academic Controls	
	Freq.	Cum. Pct.	Freq.	Cum. Pct.	Freq.	Cum. Pct.
up to 49.9	4	7	3	4	5	7
50.0- 59.9	8	21	8	15	12	25
60.0- 64.9	5	29	11	30	8	37
65.0- 64.9	15	58	13	48	18	63
70.0- 74.9	13	78	14	67	9	76
75.0- 79.9	6	88	12	84	9	90
80.0- 84.9	5	97	9	96	4	96
85.0- 89.9	2	100	2	99	1	97
90.0- 100	0	100	1	100	2	100
N=	58		73		68	
Mean=	68.01		70.12		67.39	

There is no clear pattern of high or low performance for each of the subgroups. The low point for the Targets was Term 1, and the high point, Term 5. However, Term 1 GPA is reduced by the grades of those who subsequently dropout. In addition, the Terms in between do not seem to follow a pattern.

The Academic Controls also have Term 1 as the lowest and Term 5 as the highest, again with some fluctuation in the intervening periods. The Vocational Controls are lowest in Term 4 and highest in Term 1.

Cumulative Pass/Taken Ratio

The Cumulative Pass/Taken Ratio for whole Triplet subgroup shows a slightly different pattern from GPA. The V's had a ratio of .77, the A's a ratio of .74, and the T's a ratio of .73. Neither analysis of variance nor of covariance showed this to be statistically significant.

When the cumulative PTR means were examined for all subjects retained, in Table 46, the order of performance was restored to V, T, A.

The Targets performed best in Terms 2 and 5 and weakest in Terms 1 and 3. This does not seem to offer an interpretable pattern. The V's were strongest in Terms 1 and 5 and weakest in Term 2. The high point for the A's was Term 5 which was quite higher (.74) than their low point in Term 1 (.57).

Table 46

Frequency Distribution of Cumulative Pass/Taken Ratio
All Subjects Retained 5 Terms

Pass/ Taken Ratio	Targets		Vocational Controls		Academic Controls	
	Freq.	Cum Pct	Freq.	Cum Pct	Freq.	Cum Pct
0- .25	3	5	2	3	4	6
.26- .50	9	21	4	8	8	10
.51- .75	7	33	21	37	18	44
.76-1.00	39	100	46	100	38	100
N=	58		73		68	
Mean=	.74		.78		.72	

Cumulative Attendance

The number of days absent was summed for each student retained two and a half years. A mean for each subgroup was computed by dividing the sum by the number of students. For the whole triplet subgroups, the V's were absent least, 36.55 days. The T's were absent 56.76 days and the A's were absent 78.13 days.

Analysis of variance showed the difference in the means to be statistically significant. (F=3.48, dF=2/87, P=0.035) Analysis of covariance, using IS/JHS days absent, was also significant, and is summarized in Table 47.

Table 47

Analysis of Covariance Summary Table
for Cumulative Days Absent

Source	SS	df	MS	F	Signif. of F
Days ABS JHS	341.17	1	341.17		
Days ABS Overall	23,803.37	2	12,901.68	3.306	0.041
ERROR	327,805.94	84	3,902.45		
TOTAL	353,950.50	87	4,068.40		

The frequency distribution, Table 48, of cumulative days absent for all subjects retained two and a half years shows the same pattern or behavior as the analysis of whole Triplets.

The Targets were absent the fewest days in Term 1 and the most days in Term 5. This seems to contradict their pattern of grade performance which was highest in Term 5 and lowest in Term 1. The Vocational Controls had generally high attendance, an average of fewer than 10 days absent per term, in Term 1, 3, and 5. In Term 4, their attendance was markedly lower, with 17.33 days absent. The Academic Controls had their fewest days absent in Term 1 and their most in Term 5. This is again unexpected in light of their high grade performance in Term 5 and low performance in Term 1. (See page 67). More in line with generally held expectations of high school performance, the Vocational Controls showed a consistent pattern of higher attendance coupled with higher GPA and of lower attendance coupled with lower GPA.

Cumulative Punctuality

The number of days cumulatively late was computed in the same manner as number of days absent. The Targets were late the fewest number of times, 21.46. The Academic Controls were late an average of 26.03 times, and the Vocational Controls were late an average of 55.10 times. Analysis of variance showed this to be statistically significant (F=4.98, df=2/85, P=.009).

Analysis of covariance, summarized in Table 49, confirmed the statistical significance of the difference controlling for variance contributed by earlier performance on this variable.

Table 48

Frequency Distribution of Cumulative Days Absent All Subjects Retained 5 Terms

Days Absent	Targets		Vocational Controls		Academic Controls	
	Freq.	Cum. Pct.	Freq.	Cum. Pct.	Freq.	Cum. Pct.
0- 9	3	6	8	12	4	6
10- 19	10	25	12	30	8	19
20- 29	8	40	10	45	10	35
30- 39	5	49	12	64	8	48
40- 49	3	55	4	70	6	58
50- 59	2	58	6	79	6	68
60- 69	5	68	3	83	1	69
70- 79	2	72	2	86	4	76
80- 89	4	79	1	88	2	79
90- 99	3	85	0	88	2	82
100-124	2	89	2	91	1	84
125-149	5	98	3	95	1	85
150-199	1	100	1	97	3	90
200 +	0	100	2	100	6	100
N=	53		66		62	
Mean=	56.42		45.67		68.95	

Table 49

Analysis of Covariance Summary Table for Cumulative Days Late

Source	SS	df	MS	F	Signif. of F
Days Late JHS	91.03	1	91.03		
Days Late Overall	20,749.00	2	10,374.50	5.14	0.008
ERROR	169,487.06	84	2,017.70		
TOTAL	190,327.13	87	2,187.67		

The frequency distribution of days absent, Table 50, shows the same pattern of performance for all subjects retained two-and-a-half years.

The Targets were late least frequently in Term 4 and most frequently in Terms 1 and 2. The Academic Controls had their best punctuality in Term 5 and their poorest punctuality in Term 1. The punctuality pattern of the Vocational Controls is the reverse of these two, with Term 1 being best and Term 5 poorest.

Table 50

Frequency Distribution of Cumulative Days Late
All Subejcts Retained 5 Terms

Days Late	Targets		Vocational Controls		Academic Controls	
	Freq.	Cum.Pct.	Freq.	Cum.Pct.	Freq.	Cum.Pct.
0- 9	22	43	11	17	28	48
10- 19	13	69	10	32	6	59
20- 29	4	76	10	47	9	74
30- 39	2	80	7	48	0	74
40- 49	3	86	8	59	1	76
50- 59	0	86	3	74	3	81
60- 69	1	88	5	82	1	83
70- 79	0	88	3	86	0	83
80- 89	1	90	2	89	4	90
90- 99	1	92	0	89	0	90
100-124	1	94	2	92	1	91
125-149	0	94	1	94	2	95
150-199	2	98	2	97	2	98
200 +	1	100	2	100	1	100
N=	51		66		58	
Mean=	28.45		46.64		33.17	

Data Summary

Table 51, following, summarizes the data presented on Triplets which remained complete throughout the two-and a-half years. Performance for IS/JHS, each Term, and the cumulative two-and a half year periods are given.

Table 51

Data Summary
from IS/JHS through High School

Performance Means, ANOVA, ANCOVA, Adjusted Means
by Whole Triplets

	IS/JHS	Term 1	Term 2	Term 3	Term 4	Term 5	Cumulative
	N=99	N=77	N=57	N=51	N=44	N=32	N=32
GPA							
Group T	72.83	64.43	66.87	64.99	65.37	68.22	67.94
Group V	75.38	69.83	68.93	68.92	65.91	69.55	71.98
Group A	73.83	62.73	64.19	64.80	63.42	67.78	67.98
ANOVA Sign. F.	N.S.	.002	N.S.	N.S.	N.S.	N.S.	N.S.
ANCOVA Sign. F.		.006	N.S.	N.S	N.S.	N.S.	N.S.
Adj Mean T		65.27					
Adj Mean V		69.05					
Adj Mean A		62.86					
PTR							
Group T	.84	.65	.73	.65	.70	.73	.74
Group V	.90	.77	.73	.75	.68	.77	.82
Group A	.86	.57	.63	.62	.64	.74	.73
ANOVA Sign. F.	N.S.	.005	N.S.	N.S.	N.S.	N.S.	N.S.
ANCOVA Sign. F.		.000	N.S.	N.S.	N.S.	N.S.	N.S.
Adj Mean T		.56					
Adj Mean V		.76					
Adj Mean A		.56					

Table 51 (continued)

	IS/JHS N=99	Term 1 N=77	Term 2 N=57	Term 3 N=51	Term 4 N=44	Term 5 N=32	Cumulative N=32
Days ABS							
Group T	18.86	13.75	13.69	12.92	15.91	14.47	56.76
Group V	15.60	9.06	12.93	9.43	17.33	9.59	36.54
Group A	17.71	16.01	18.63	18.22	20.32	21.06	78.14
ANOVA Sign. F.	N.S.	.020	N.S.	.051	N.S.	N.S.	.035
ANCOVA Sign. F.		.043	N.S.	N.S.	N.S.	N.S.	.041
Adj Mean T		13.57					55.24
Adj Mean V		9.36					36.62
Adj Mean A		15.86					78.25
Days Late							
Group T	15.81	6.76	6.55	5.38	3.17	4.97	21.46
Group V	17.79	7.05	10.39	11.14	9.60	14.22	55.10
Group A	17.36	8.36	6.83	6.08	5.14	4.16	26.03
ANOVA Sign. F.	N.S.	N.S.	N.S.	.040	.005	.002	.009
ANCOVA Sign. F.		N.S.	N.S.	.030	.004	.003	.000
Adj Mean T				.527	3.15	3.63	20.80
Adj Mean V				10.89	9.76	14.20	55.65
Adj Mean A				5.70	4.99	4.15	26.10

CHAPTER 6

EFFECTS OF RECEIVING OCCUPATIONAL TRAINING IN OTHER THAN A VOCATIONAL HIGH SCHOOL

This section explores the data on how many students in the Target and Academic Control groups, received occupational training.

The data are looked at from several points of view:

- How many students received occupational training each term in any of the five areas listed in the IS/JHS Survey of Choices?
- How many students received occupational training in the area they had identified as their area of interest in the IS/JHS Survey of Choices?
- How many terms of this training did they receive?
- How many students received occupational training in an area in which they did not express interest in the IS/JHS Survey of Choices?
- Is there any difference in the retention and performance of students who received occupational training in the area of interest they expressed, students who received training in another occupational area, and students who received no occupational training.

The five areas of interest are Clerical or Business, Mechanics or Construction, Services to People, Agriculture, and the Arts. For purposes of this study, occupational training was defined as more than one class per semester and/or more than one semester of a subject falling into one of the categories above. (It should be noted that this does not meet with the State Education Department definition of vocational education.)

Training Received by Occupational Area

Table 52, following, shows the number of Targets and Academic Controls who received training each term in any one of the five areas. This table does not detail whether or not the same student is receiving training over several terms. It should only be read as an indicator of institutional activity. Subsequent sections will deal with the data by individual student.

Table 52

Number of Students Receiving Training Each Term by Occupational Area

	Term 1		Term 2		Term 3		Term 4		Term 5	
	T's	A's	T's	A's	T's	A's	T's	A's	T's	A's
Clerical/Business	4	5	10	8	23	17	29	21	18	20
Mechancial/Construction	1	0	2	2	0	0	3	3	0	0
Service to Others	2	1	3	5	1	2	3	3	3	3
Agriculture	0	0	0	0	0	0	0	0	0	0
The Arts	0	0	2	3	1	1	2	3	1	1
All Fields	7	6	17	18	25	20	37	30	22	24
(Number in School Not Receiving Training)	(74)	(83)	(56)	(67)	(42)	(61)	(25)	(46)	(36)	(44)

T's = Targets
A's = Academic Controls

Training Received by Expressed Interest

The occupational training area of all T's and A's who received any training was compared to the area in which interest was expressed on the IS/JHS Survey of Choices.

For the Targets, 5 students had one term of training in the expressed area of interest, 6 had two terms of training in the expressed area of interest, 8 had three terms in the expressed area of interest, 1 had four terms of training and 1 had five. Thus 21 students denied admission to Vocational High Schools received occupational training in the area of interest. Of the 21, only 1 student dropped out.

An additional 6 Targets received one term of training and 14 Targets received two or more terms of training in occupational areas other than those in which interest had been expressed on the IS/JHS Survey of Choices. Of these 20, only 2 dropped out.

Of the Academic Controls, 6 had one term of training in the area in which interest had been expressed, 2 had two terms of training, 1 had three terms of training, 2 had four terms of training and 1 had five terms. Of the total of 12 students who received occupational training in the area of interest expressed, 1 dropped out.

An additional 26 Academic Controls received training in an area other than the one in which interest had been expressed. Nine of these had one term of training and 17 had two or more terms. Of these, 1 dropped out.

Performance Differences

Two measures of performance differences were used: Retention, and GPA in the fifth term. The Term 5 GPA (not cumulative) was selected because all terms of occupational training would thereby be included and students have generally "hit their stride" by the fifth term.

Retention

For the Targets, the overall retention rate by Term 5 was 58.6. For those Targets who received any occupational training, the retention rate was 92.7. Only 3 Targets of the 41 receiving occupational training had dropped out.

Results are similar for the Academic Controls. The overall retention rate by Term 5 was 68.7. For those who received occupational training, 94.9 was the retention rate. Only 2 of the 37 Academic Controls receiving training dropped out.

Grade Point Average

Term 5 GPA was compared for three groups of Targets: Those who had received training in the area of interest expressed in the IS/JHS Survey of Choices, those who had received training in another occupational area, and those who had received no occupational training. The results, depicted in Table 53, show highest GPA's for those who got their choice and lowest GPA's for those who received no occupational training.

Term 5 GPA was compared, in the same way, for three groups of Academic controls. Again those who received training in their area of choice were highest, and those with no training lowest.

Table 53

Term 5 GPA

Occupational Training Received

	Rec'd Trng. Area of Choice		Rec'd Trng. Not Area of Choice		Rec'd No Trng.		All Subj. Retained	
	N	GPA	N	GPA	N	GPA	N	GPA
Targets	20	74.13	19	66.14	19	62.6	58	67.87
Academic Controls	11	72.64	26	69.86	31	63.15	68	67.30

CHAPTER 7

THE POST-SECONDARY CAREER CHOICE SURVEY

In June 1979, all students retained in high school were mailed the Career Choice Survey. The Career Choice Survey is a mailable revision of the Attitude Scale of the Career Maturity Inventory "The Attitude Scale elicits the feelings, the subjective reactions, the dispositions that the individual has toward making a career choice and entering the world of work" (Crites, 1973). In addition to the Attitude Scale, the Career Choice Survey asked about occupational training received while in high school and immediate plans upon high school graduation (see Appendix F).

One hundred ninety-nine subjects were mailed the questionnaire. Of these, 58 were Targets, 72 Vocational Controls, and 69 Academic Controls. The overall response rate was 46.2%,with 25 T's responding, 32 V's,and 35 A's.

Results of the Career Maturity Index

The Career Maturity Index yields a raw score of zero to fifty. The Scale was designed for high schools students, having been scaled on 12th graders. Studies "confirm that the Attitude Scale is equally applicable to males and females"(Crites, 1973).

Use of the Attitude Scale has shown that the most appropriate criterion group for norming is the local group. This is particularly true in this use of the Scale since none of the general testing conditions applied. That is, the Attitude Scale is generally administered in a class or small group setting using separate answer sheets and booklets. The explanation and directions are read aloud, with an opportunity for questions. For this administration, a new format was created for mailing with the answers alongside the questions. In addition, all directions were written, and there was no opportunity for questions.

All 92 respondents to the Survey responded to the Attitude Scale. There were therefore, 25 T's, 32 V's and 25 A's. The means showed little difference among the three subgroups. The Targets scored 33.64; the Vocational Controls 32.16; and the Academic Controls 31.60.

The results of the Attitude Scale of the CMI seem to indicate that the High School experiences of the three sub-groups had little or no difference in effect on this aspect of career development.

Extra Curricula Occupational Training

A set of questions on the survey dealt with students receiving occupational training after school or on the weekend.

Of the 25 Targets, 7 responded that they had received training in a free program, 1 in a private trade school. For 3 of these,the area of occupational training corresponded to the area of interest expressed in the IS/JHS Survey of Choices. The students identified the areas as follows: 3 in Clerical or Business, 3 in Mechanics or Construction, 0 in Services to People, 0 in Agriculture, and 2 in the Arts.

Of the 32 Vocational Controls,6 responded that they had had training in a "free program" after school or on weekends, none in a private trade school. Of these, 3 had training in the area of interest expressed in the Survey of Choices. The areas were as follows: 4 in Clerical or Business, 0 in Mechanics or Construction; 1 in Services to People; 0 in Agriculture; 0 in the Arts;and 1 in several areas.

Of the 35 academic controls, 6 responded that they had occupational training, all in a "free program". One was trained in the area of interest expressed in the IS/JHS Survey of Choices. The areas were as follows: 5 in Clerical or Business; 1 in Services to People; and 0 in Mechanics or Construction, Agriculture, and the Arts.

Because the number of responses being analyzed is low, it is impossible to draw firm conclusions. However, it might be noted that the number of Targets who received some form of free training after school or on weekends is essentially the same as the number of Vocational Controls receiving this training. In the initial IS/JHS Survey of Choices, 96% of the Targets indicated an occupational area in which they wanted occupational training while in high school. Of those surveyed, only 32% were able to receive any training outside their high school programs. Of the 7 Targets who received occupational training outside their high school, 6 had also received training within high school. Therefore, only 1 Target student found an alternative means of obtaining occupational training.

Post-Secondary Plans

All of the respondents planned to graduate from high school, or had graduated. However 5 students (3 V's and 2 A's) planned to earn High School Equivalency Diplomas (GED's) rather than follow the traditional route through high school.

Most students in all three subgroups intend to pursue further education. Of the T's, 75% planned to go on, more than half planning to attend full-time four year colleges. Of the V's, 86% planned to continue; approximately one-third planning to attend full-time four year colleges, one-third planning to attend a two-year college, and one-third planning to go to school and work. Of the A's, 80% planned to pursue their education with somewhat more; 39% planning to attend two-year colleges and one-third planning both to work and go to school.

CHAPTER 8

THE DROPOUTS

The students who had been identified as dropouts - those not retained in the New York City Public High School system - were sent a survey in June, 1979. The goal of the survey was to determine their work and occupational training activities since leaving high school, in particular, to see if there was a relationship between what they had done and their expressed area of interest in the IS/JHS Survey of Choices. (See Appendix H: Job Training Survey.)

Before presenting the results of the survey, a description of the dropouts from this study will be given.

Profile

In all, 98 of the original students had left the public school system by the end of the study. Of these, 41 had been Targets, 31 Academic Controls, and 26 Vocational Controls. In Term 1, 24 students left; in Term 2, 21 left; in Term 3, 15 left; in Term 4, 12 left; and in Term 5, 26 left. In general, the Targets dropped out early in their high school careers and the Vocational Controls later. 61% of the Targets who dropped out did so by the end of the first year. Only 23% of the Vocational Controls had left by the end of the first year. In fact, 54.9% of the Vocational Control dropouts remained in high school for two years before dropping out.

An examination of the IS/JHS performance indicators - GPA, attendance, and punctuality - was made to see if any differences had been discernable at particular points. The measures were examined for those who dropped out in year 1 vs.those who never dropped out; for those who dropped out in year 2 vs.those who never dropped out; and those who dropped out in any term vs.those who never dropped out.

For all three comparisons, the differences in IS/JHS performance are statistically significant on the measure of GPA as presented in Table 54. It is interesting to note that the performance in IS/JHS was somewhat lower for students dropping out later than for those who dropped out earlier. There were no significant differences found in attendance or punctuality.

Table 54

Tests of IS/JHS Performance
Dropouts vs. Retained Students

	N	Mean	SD	T	df	Signif. of T
Dropped Yr. 1 vs. Never						
Dropped	47	71.50	12.01			
Retained	199	75.68	10.23			
				-2.20	62.71	0.031
Dropped After Yr. 1 vs. Never						
Dropped	51	69.83	11.22			
Retained	199	75.68	10.23			
				-3.38	72.74	0.001
Dropped Any Time vs. Never						
Dropped	98	70.63	11.58			
Retained	199	75.68	10.23			
				-3.67	173.44	0.000

The frequency distribution of IS/JHS GPA for dropouts year 1, dropouts after year 1 and retained students (Table 55) does not reveal as clear a pattern as one might expect from the significant differences in the means. While the dropouts as a group performed poorly in IS/JHS, individual dropouts did very well and conversely some students who achieved five terms of high school had very poor IS/JHS grades. It should be remembered that the group of dropouts includes in its definition those students who transferred schools. (See page 80.)

Job Training Survey

The response rate on the Job Training Survey, was lower than that on the Career Choice Survey - 25.5% responded. This had been anticipated because of the large number of dropouts in "not found" categories. The respondents were 6 Targets, 9 Academic Controls,and 10 Vocational Controls.

Table 55

Frequency Distribution of IS/JHS GPA by Dropouts Year 1, Dropouts After Year 1 and Retained Students

	Dropout Yr. 1		Dropout After Yr. 1		Retained Students	
	Freq.	Cum.Pct.	Freq.	Cum.Pct.	Freq.	Cum.Pct.
up to 50.0	1	2	2	4	1	1
50.0 -59.9	7	17	5	14	12	7
60.0- 64.9	8	34	9	31	13	13
65.0- 69.9	7	49	9	49	27	27
70.0- 74.9	7	64	10	69	37	45
75.0- 79.9	5	74	5	78	34	62
80.0- 84.9	3	81	5	88	34	79
85.0- 89.9	3	87	4	96	22	90
90.0-100	6	100	2	100	19	100
N=	47		51		199	
Mean=	71.5		69.83		75.68	

The first questions dealt with students receiving occupational training after school or on the weekends while in high school. Three students responded positively. All three had been trained in the clerical or business area. What question was the same first question asked of the retained students on the Career Choice Survey. 32% of the retained students had received extra curricular training, 12% of these respondents had some training while in high school.

The next set of questions dealt with the respondents' current occupational and education activities. The number of students reporting each activity is presented in Table 56.

It may be noted that none of the Target students were currently working. One student reported he had worked, but was not now working. Three Vocational Controls responded they were working and an additional two responded they had worked, bringing the total of Vocational Controls who had worked since leaving high school to 50% of those who dropped out.

Table 56

Report of Post-High School Activities by Students Not Retained

Activity	Targets	Vocational Controls	Academic Controls
Attending Alternative or Private H.S. in NYC	3	1	2
Attending School Outside NYC	0	0	0
Preparing for H.S. Equivalency	0	3	2
Attending Trade School	0	0	1
Working	0	3	3
Looking For A Job	3	2	2

The final set of questions dealt with the respondents' present desire for job training. Of the group responding, 84% responded positively to the question. Of these, 52% identified the same general area of occupational interest as they had identified in the IS/JHS Survey of Choices.* Fourteen of the respondents gave usable responses to the question of the occupational area in which they would now like training: 5 preferred Clerical or Business; 6 preferred Mechanics or Construction; 2 preferred Services to People; 1 preferred the Arts; and 0 preferred Agriculture.

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* Subjects were not asked to remember their earlier response. The response to the question on this survey was compared to the equivalent response on the previous survey.

CHAPTER 9

SUMMARY AND RECOMMENDATIONS

This study sought to determine the effects of being denied Vocational High School entrance. It contrasted and compared the high school retention and performance of those who were denied admission with those who were admitted and those who never applied for admission.

Findings

The retention rate of those denied admission was meaningfully lower than the other two groups throughout the study. Eighteen percent of the Targets dropped out in the first term alone. This is in strong contrast to the 100% retention of the Vocational Controls. At the end of five semesters 58.5% of the Targets, 68.7% of the Academic students, and 73.7% of the Vocational Controls were retained. The high early dropout rate among the Targets is not surprising when one examines the disaffection toward school reflected in the IS/JHS Survey of Choices. This survey was administered to the subjects in June of their senior IS/JHS year. Responses to questions about feelings upon starting high school were significantly different among Targets, Vocational Controls, and Academic Controls. Specifically, three questions were taken as a "measure of disaffection": Did the subjects reply appropriately to questions about the schools to which they had applied? Did the subjects reply appropriately to a question about the schools by which they had been accepted? Did the subjects supply the correct name of the high school which they were scheduled to attend? On all three questions, the Targets "did not know" or "forgot" significantly more frequently than either the Vocational or Academic Controls.

In measures of Grade Point Average, Pass/Taken Ratio and Attendance, the Vocational Controls were consistently the highest performing group of the three. The Targets generally performed second, and the Academic Controls had the lowest performance. Although this was not statistically significant in all terms, the strength of the direction, term after term, seems to indicate a basic pattern. One might conclude that the Vocational Controls and Targets - all of those who applied to specialized schools - are a more highly motivated group.

In the measure of punctuality, a different pattern was seen. In general the Targets were the most punctual, the Academic Controls second most, and the Vocational Controls least. It is difficult to explain this phenomenon. Perhaps Vocational High School students prefer to come late rather than absent themselves. Their mean cumulative days absent 36.55 was significantly lower than either the 56.76 mean cumulative days absent of the Targets, or that of the 78.13 Academic Controls.

When the students in the Academic High Schools - the Targets and Academic Controls - received occupational training, this was associated with higher retention rates and higher grade point averages. The retention rate for Targets who received occupational training was 92.7 (compared to the overall Target retention rate of 58.5%). For Academic Controls who received occupational training the retention rate was 74.9% (compared to the overall rate of 68.7%). The Term 5 GPA's for Targets who had received occupational training in a previously expressed area of interest was 74.13; for those who received training in another area 66.14; and for those who received no training, 62.6. The picture was similar for Academic Controls with those receiving training in their expressed area having a GPA of 72.64; in another area, 69.86; and none, 63.15.

At the time the subjects were about to graduate from Intermediate/Junior High School, an overwhelming number, 95% had expressed interest in receiving occupational training while in high school in a particular area. Very few of the subjects were able to identify sources of training outside their own high schools. Surveys of both the retained students and the dropouts showed that only a small minority had been able to obtain training after school or on weekends while in high school. Even fewer obtained training after leaving high school.

Recommendations

o The first recommendation is that students be provided with additional access to occupational training. This may be done through increasing the number of high schools that offer vocational training, by increasing occupational training offerings at all high schools, and by making students more aware of alternative programs offered outside school hours.

o The second recommendation is that a single application system be implemented so that every student receives a positive result to his or her application for occupational training. While students may not receive their first choices, all students should have a response that shows support of their choices. For example, students might be assigned to their zoned, Academic High Schools plus an alternative program in a neighboring school accessible by public transportation.

A single application system will also serve to reduce the uncertainty about the actual number of students denied admission, thereby increasing the system's management and planning capabilities. In addition, a single acceptance will assist the schools by reducing the attrition which occurs between their acceptance of a student and the issuing of list notices.

- Student choices should not be dismissed simply because they are changeable. Research on career development, as well as our own experiences, shows us that career choices develop throughout life. Nevertheless one's choice at any given moment is his or her motivating force. To ignore choices because they are immature and therefore variable, or to measure the outcomes of vocational education simply by placement in a related job, vastly oversimplifies the complex process of career development. Therefore, the third recommendation is that students' desires for occupational training be honored and be recognized as key motivating factors.
- The fourth recommendation is that more guidance services be offered to students, particularly at the key decision-making points of high school selection. This should include not only additional professional personnel but also increased use of career information delivery systems linked to programs at the high school and even the post-secondary levels.
- The final recommendation is that movement among programs be made easier. Students who elect Vocational High Schools should be able to change occupational majors or move to Academic High Schools (as indeed they may). Similarly, students who do not originally elect Vocational High Schools need more opportunities to do so later in their high school careers.

Basically, the findings of this report indicate that most students have a strong interest in receiving occupational training while in high school, and that receiving or not receiving this training is linked to their overall performance. The basic recommendation is that this interest be given scope by the system, at the same time that the system accomodates the need for changes of interest as students mature.

APPENDIX A
Intermediate/Junior High School Survey of Choices

BOARD OF EDUCATION OF THE CITY OF NEW YORK
DIVISION OF EDUCATIONAL PLANNING AND SUPPORT
CENTER FOR CAREER AND OCCUPATIONAL EDUCATION

PROJECT CATCH

LAST NAME
1 15

FIRST NAME MI
16 25 26

MO DY YR
DATE OF BIRTH
27 32

OFFICIAL CLASS ______________
33 38

BOY (1) GIRL (2)
39

DO NOT WRITE BELOW THIS LINE

SCHOOL 40 STUDENT 41 44 CARD 45

---

46 47 48 54

55 56 57 61 62

63 68 boro 69 school 70 72

73 74 75 76 80

1. Some people of your age have chosen their careers and feel very certain. Other young people change their minds frequently as they learn and think about careers. Still others really haven't made up their minds at all. Which sentence best describes you? (Check only one)

46 1) ___ I feel very sure I want to be a ______________________________
(fill in name of occupation)

2) ___ I think I want to be a ______________________________
(fill in name of occupation)

3) ___ I haven't really made up my mind yet.

2. How long do you plan to stay in school? (Check only one)

47 1) ___ I plan to leave as soon as I can.

2) ___ I plan to finish high school.

3) ___ I plan to continue my schooling even after I finish high school.

3. All of the students in your grade recently filled out high school applications. Which of the following schools did your choose? (You may check more than one)

48 1) ___ I applied to one or more Science or Talent schools (Stuyvesant, Bronx H. S. of Science, Brooklyn Tech, Music & Art)

2) ___ I applied to one or more Vocational High Schools and had to take a test.

3) ___ I applied to one or more Vocational High Schools that did not require a test.

4) ___ I applied to one or more Educational Options Porgrams in high schools outside of my zone.

5) ___ I applied to my zoned, neighborhood high school.

6) ___ I applied somewhere else ______________________________
(Fill in name of High School)

54 7) ___ I am not sure.

4. People often have many reasons for things they do. Which of the following were reasons for your high school applications? (You may check more than one)

201 1) ___ I feel I can get a very good education there.

2) ___ I feel I can learn the occupation I want there.

3) ___ My friends or relatives go there.

4) ___ I don't know anyone there. I want a fresh start.

5) ___ It's my neighborhood high school.

6) ___ It's not my neighborhood high school.

7) ___ I just wanted to see if I could get in.

5. Which of these is the MOST IMPORTANT REASON for your high school application? (Check only one)

55 1) ___ I feel I can get a very good education there.

2) ___ I feel I can learn the occupation I want there.

3) ___ My friends or relatives go there.

4) ___ I don't know anyone there. I want a fresh start.

5) ___ It's my neighborhood high school.

6) ___ It's not my neighborhood high school.

7) ___ I just wanted to see if I could get in.

6. Who helped you decide where to apply? (You may check more than one)

202 1) ___ parents or other family members.

2) ___ friends.

3) ___ guidance counselor or grade advisor.

4) ___ a teacher.

5) ___ some other adult.

6) ___ no one.

7. Who gave you THE MOST HELP? (Check only one)

50 1) ___ parents or other family members.

2) ___ friends.

3) ___ guidance counselor or grade advisor.

4) ___ a teacher.

5) ___ some other adult.

6) ___ no one.

8. In school, where did you get information about high schools? (You may check more than one)

57 1) ___ from the High School Directory.

2) ___ from other printed material.

3) ___ in the classroom.

4) ___ in assembly programs.

61 5) ___ by talking to the counselor alone or with just a few other students.

9. Did you feel that you really knew what you were doing when you filled out your High School applications? (Check only one)

62 1) ___ I really knew what I was doing.

2) ___ I had some information, but it was confusing.

3) ___ I didn't have enough information to apply for what I wanted.

10. You now have the results of your high school applications.

Check the boxeor boxes that apply to you. (You may check more than one)

63 1) ___ I was accepted by a Science or Talent high school.

2) ___ I was accepted by one or more Vocational High Schools.

3) ___ I was accepted into one or more Educational Option Programs.

4) ___ I was accepted by some other high school ______________________

(fill in name)

5) ___ I was not accepted by any school except my zoned high school.

68 6) ___ I applied only to my zoned high school.

69 11. Which high school do you plan to attend?

72 ______________________________

(Fill in name of one high school)

12. Why have you chosen this high school? (Check only one)

73 1) ___ I had no choice. That's where they're sending me.

2) ___ I feel I'll get a very good education there.

3) ___ It's not my first choice, but I think it will be okay.

13. Going from Junior High School to High School is a big step, and different people have different feelings. How do you feel? (Check only one)

74 1) ___ I can't wait to get started. I'm really looking forward to it.

2) ___ I think it will be okay, but I'm a little nervous.

3) ___ I wish I were going to a different high school.

4) ___ It doesn't matter.

14. Some of you will want to be able to start full time work right after high school graduation. Others will want part time work while going to college. You can learn to do some jobs while you are still in high school.

Listed below are 5 major job areas. You will see examples in each. Although you may not see the exact job you would like, check the kind of job that comes closest to your choice. REMEMBER, THIS IS FOR JOB TRAINING WHILE YOU ARE IN HIGH SCHOOL. (Check only one)

75 1) ___ CLERICAL OR BUSINESS (typing, filing, data processing, selling, clothing trades, etc.)

2) ___ MECHANICS OR CONSTRUCTION (auto, appliances, aviation, printing, carpentry, radio and t.v. repair, etc.)

3) ___ SERVICES TO PEOPLE (practical nursing, physician's aide, child care, food preparation, cosmetology, social work aide, etc.)

4) ___ AGRICULTURE (plant or animal care)

5) ___ THE ARTS (music, acting, writing, painting, photography, etc.)

6) ___ I do not want any skills training while in high school.

15. How do you think you can get the training you checked above? (You may check more than one)

76 1) ___ I could get it in a program in my high school.

2) ___ I could get it by going to a free Board of Education program after school.

3) ___ I could get it by going to my own high school in the morning and a different high school in the afternoon.

4) ___ I could get it by paying for it in a private school.

80 5) ___ I do not know at this time. I need more information.

THANK YOU AND GOOD LUCK IN HIGH SCHOOL.

APPENDIX B

QUESTIONS FOR DISTRICT SUPERVISORS OF GUIDANCE AND COUNSELORS

Person Interviewed ______________________ Position ________________

District ______________________ I.S. ______________________, JHS ______________________

#Students 8th grade ________________ # students 9th grade ________________

1. When does counseling of students toward high school choices begin?

2. What kinds of activities are carried out?

   individual counseling
   small groups
   classroom guidance groups
   curriculum infusion
   assemblies
   distribution of printed material
   visits to schools
   visits by representatives of schools

3. How are parents involved in the the process of choosing a high school?

4. How is the distribution of the High School Directory handled?

5. How are students informed about test dates?

6. How are students prepared for the tests for the Vocational High Schools?

7. Are students encouraged to make more than one choice?

8. Have you run into any problems with conflicting test dates?

9. How, and by whom, are students informed of acceptance/rejection into screened programs?

10. What are students told about the Educational Options?

11. Are students rejected by the screened programs encouraged to apply to unscreened programs?

12. Are students encouraged to complete choices 2 and 3 on the application?

Are they given help in the actual completion of it? By whom?

13. Do you use the priority number system on the applications?

14. What are your reactions to this system?

15. Is a student who failed an entrance examination generally given any preference over a student who did not take one of the entrance examinations?

16. How, and by whom, are students and parents notified that they cannot attend a vocational high school?

17. What problems have you encountered in this entire application process?

18. How are this year's guidance services, in this area, different from last year's?

19. How could I arrange to be present when some students are notified of their rejection or to interview some of these students later in the Spring?

APPENDIX C

Intermediate/Junior High School Survey Instructions

BOARD OF EDUCATION OF THE CITY OF NEW YORK
DIVISION OF EDUCATIONAL PLANNING AND SUPPORT
CENTER FOR CAREER AND OCCUPATIONAL EDUCATION

PROJECT CATCH

To the Counselor and Teachers of ______________________________

We appreciate your cooperation in this study of Intermediate/Junior High School students' career interests and high school choices. The students we are surveying today will form a group to be followed up in high school.

The survey itself has the following objectives:

1. To assess students' motivations in their choice of high school.
2. To understand the students' views of guidance procedures.
3. To understand students' feelings about the high school which they will attend.
4. To assess student knowledge and awareness of available skills training programs.

If possible, please allow a full period for the survey. Return the completed forms to ______________________ by ______________________.

Directions: Distribute the questionnaires. Read the following to the students.

To the Student

This questionnaire is to help us see how students choose their high schools. Understanding your choices will enable us to plan programs for students like you in the future.

We are interested in your experiences and feelings. There are no right or wrong answers. If you don't understand the words in a question, raise your hand for help.

Now fill in the cover sheet. In the first line of boxes, print your last name, one letter to a box. (Pause) On the next line, print your first name. one letter to a box and put your middle initial in the box provided. (Pause) Where it says Date of Birth, use the first two boxes for the number of the month, the next two for the day, and the last two for the year. Print your official class on the line provided. If you are a boy, circle the word boy. Girls circle the word girl.

Please answer every question. Some questions call for only one answer. For some, you may give more than one answer. Be sure to follow the directions after each question.

Turn the page and begin work.

APPENDIX D

Intermediate/Junior High School Data Collection Instrument

NYC Board of Education
D.E. P. & S.
CCOE
Project CATCH
D.Perlmutter, Coord.

PASTE LABEL HERE

ID ☐☐☐☐ 1 4 CARD ☐ 2 5

HOME ADDRESS ☐☐☐☐☐☐☐☐▨☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐
6 House Number 13 14 15 Street (See Address Code) 34

Zip ☐☐☐☐☐ 35 39 Borough Code ☐ 40

NYC READING TEST: LEVEL ☐ 41 DATE ☐☐☐☐ mo yr 42 45 TOTAL SCORE ☐☐☐.☐ 46 49

MATH TEST: TEST ☐☐☐ 50 LEVEL ☐ 53 FORM ☐ 54 DATE ☐☐☐☐ mo yr 55 58 SCORE ☐☐☐.☐ 59 62

GRADES: ENGLISH ☐☐ 63 SOC. STUD. ☐☐ 65 SCIENCE ☐☐ 67

MATH ☐☐ 69 MATH LEVEL____________ ☐ 71

SPECIAL PROGRAM DESIGNATION_________ ☐ 72 DAYS ABS. ☐☐☐ 73 DAYS LATE ☐☐☐ 76

ID ☐☐☐☐ 1 4 CARD ☐ 3 5 SCHOOL ATTENDING____________ BORO ☐ 6 CODE ☐☐☐ 7 9

APPLICATIONS: NAME OF SCHOOL	BOROUGH	CODE	TYPE	RESULT
__________	☐ 10	☐☐☐ 11 12 13	☐ 14	☐ 15
__________	☐ 16	☐☐☐	☐	☐ 21
__________	☐ 22	☐☐☐	☐	☐ 27
__________	☐ 28	☐☐☐	☐	☐ 33
__________	☐ 34	☐☐☐	☐	☐ 39
__________	☐ 40	☐☐☐	☐	☐ 45
__________	☐ 46	☐☐☐	☐	☐ 51
__________	☐ 52	☐☐☐	☐	☐ 57
__________	☐ 58	☐☐☐	☐	☐ 63
__________	☐ 64	☐☐☐	☐	☐ 69
__________	☐ 70	☐☐☐	☐	☐ 75

APPENDIX E
High School Data Collection Instruments

LAST NAME, FIRST NAME MI ID ☐☐☐☐ (1 – 4) CARD 4 (5)

NYC Board of Education
D.E. P. & S
Project CATCH
D. Perlmutter, Coord.

SCHOOL ATTENDING

D O B

HOME ADDRESS

IS/JHS

OFFICIAL CLASS ☐☐☐☐☐ (6 – 10) or DISCHARGE REASON ☐☐ (11 – 12)

NEW SCHOOL ☐ (13) ☐☐☐ (14 – 16)

DAYS ABSENT ☐☐ (17 – 18) DAYS LATE ☐☐ (19 – 20) NEW OFF. CL. ☐☐☐☐☐ (21 – 25)

NEW ADDRESS ☐ (26) House Street Boro Zip

*LIST BELOW ALL SUBJECTS TAKEN EXCEPT PHYSICAL EDUCATION. DO LIST HYGIENE OR HEALTH EDUCATION. LIST ALL PARTS OF SUBJECT NAME.

SUBJECT TAKEN	GRADE	CODE
	☐☐ 27 28	☐☐☐☐ 29 30 31 32
	☐☐ 33	☐☐☐☐ 38
	☐☐ 39	☐☐☐☐ 44
	☐☐ 45	☐☐☐☐ 50
	☐☐ 51	☐☐☐☐ 56
	☐☐ 57	☐☐☐☐ 62
	☐☐ 63	☐☐☐☐ 68
	☐☐ 69	☐☐☐☐ 74

OF SUBJECTS TAKEN ☐ (75) # OF SUBJECTS PASSED ☐ (76) ENROLLED IN SIP ☐ (77)

ENROLLED IN ASOP ☐ (78) ENROLLED IN REM READING ☐ (79) ENROLLED IN ACAD MATH ☐ (80)

High School Data Collection Instrument I

High School Data Collection II

Last Name ____________ First ____________ M. ____

Address ______________________

____

Date of Birth ______________________

Official Class ______________________

* * * * * * *

If CHANGE OF ADDRESS, please complete:

Address ______________________

Boro or City ______________________

State/Zip ______________________

* * * * * * *

If DISCHARGED, please complete:

Reason for discharge ______________________

____

School or Institution discharged to:

____

Date of Disch. ______________________

Office Use Only

____

TB#

NYC Board of Education
BEP & S CCOE
Project CATCH
D. Perlmutter, Coordinator

SPRING '77

Subject Taken	Grade
____________	____
____________	____
____________	____
____________	____
____________	____
____________	____
____________	____
____________	____
____________	____
____________	____

No. Days ABSENT Spring '77 ____

No. Days LATE Spring '77 ____

____ Enrolled in After School Occupational Skills Program?

____ Enrolled in Shared Instruction Program?

Office Use Only

# Subjects Taken ____

# Subjects Passed ____

GPA ____

FALL '77

Subject Taken	Grade
____________	____
____________	____
____________	____
____________	____
____________	____
____________	____
____________	____
____________	____
____________	____
____________	____

No. Days ABSENT Fall '77 ____

No. Days LATE Fall '77 ____

____ Enrolled in After School Occupational Skills Program?

____ Enrolled in Shared Instruction Program?

Office Use Only

# Subjects Taken ____

# Subjects Passed ____

GPA ____

SPRING '78

Subject Taken	Grade
____________	____
____________	____
____________	____
____________	____
____________	____
____________	____
____________	____
____________	____
____________	____
____________	____

No. Days ABSENT Spring '78 ____

No. Days LATE Spring '78 ____

____ Enrolled in After School Occupational Skills Progr

____ Enrolled in Shared Instruction Program?

Office Use Only

# Subjects Taken ____

# Subjects Passed ____

GPA ____

H. S. Data Collection III

Spring 79

Last ____ First ____ M I ____ DOB ____

Address ____ Boro ____ Zip ____ Telephone ____

IF CHANGE OF ADDRESS, PLEASE COMPLETE:

New Address ____ Boro ____ Zip ____ Telephone ____

* * *

School Attending ____ Last OFF. ____ New OFF. ____

IF DISCHARGED, PLEASE COMPLETE:

Date of Discharge ____ Reason ____ ____

* * *

__ __ ID __ __ 8 DMG __ TAV # __ __ __ ABS __ LATE __

Subjects (Do Not Abbreviate)	Marks	Subjects (Do Not Abbreviate)	Marks

NYC Board of Education
DEP&S CCOE
Project CATCH
D. Perlmutter, Coordinator

____ occup ____ program

Appendix F
Letters of Cooperation from the Executive Director of the High Schools

BOARD OF EDUCATION OF THE CITY OF NEW YORK
110 LIVINGSTON STREET, BROOKLYN, N. Y. 11201
HIGH SCHOOL DIVISION

SAMUEL POLATNICK
EXECUTIVE DIRECTOR

TELEPHONE 596-8102

January 20, 1977

To All High School Principals:

This letter will serve to introduce Mrs. Deborah E. Perlmutter, Project Coordinator, of Project CATCH. The success of this project will require your cooperation in permitting the final phase of data collection for the students selected for the study.

Project CATCH--Career Training Choice is a VEA funded research program designed to study the long-range effects on students of choices they made at the IS/JHS level.

Students, throughout the city, have been selected as subjects in this study based on their high school applications. One third of the subjects applied for Vocational High School and were denied admission; one third were accepted into and are attending a Vocational High School; and one third went into their zoned schools without applying to a Vocational High School.

All of these subjects, while still students in IS/JHS, were surveyed as to their perceptions of the High School Application process and their plans for the future. Data on their IS/JHS performance has been collected from those school records.

The study will require the collection of information related to the subjects' high school performance as measured by grades and attendance.

We have been assured that the project is sufficiently staffed to preclude any imposition on school personnel.

We urge your cooperation in this project which will enable us to establish a firm data base for future plans to meet the needs of more of our students.

Very truly yours,

Samuel Polatnick

Samuel Polatnick
Executive Director

SP:es

BOARD OF EDUCATION OF THE CITY OF NEW YORK
110 LIVINGSTON STREET, BROOKLYN, N.Y. 11201
DIVISION OF HIGH SCHOOLS

NATHAN QUINONES
EXECUTIVE DIRECTOR

TELEPHONE 596-6102

September 15, 1978

To All High School Principals:

Project CATCH--Career Training Choice--is a VEA funded research program, designed to study the long-range effects on students of choices they made at the IS/JHS level.

Students throughout the city were selected as subjects in this study based on their high school applications. One third of the subjects applied for Vocational High School and were denied admission; one third were accepted into and are attending a Vocational High School; and one third went into their zoned schools without applying to a Vocational High School.

Data on the subjects' perceptions of the high school application process, their IS/JHS performance, and their first term of high school performance have been collected and analyzed. Statistically significant results, reported upon at meetings of principals, counselors, and other professional personnel, have already resulted in improved application and counseling procedures.

This letter will serve to introduce Mrs. Deborah E. Perlmutter, Project Coordinator, of Project CATCH. The success of this project will require your cooperation in permitting the final phase of data collection for the students selected for the study.

The study requires the continued collection of information related to the subjects' high school performance as measured by grades and attendance. Student identity will continue to be protected throughout all phases of the study.

We urge your cooperation in this project which will enable us to establish a firm data base for future plans to meet the needs of more of our students.

Very truly yours,

Nathan Quinones
Executive Director

mb

APPENDIX G

Career Choice Survey

System-Wide Tests of Occupational Programs
Center for Career and Occupational Education
Board of Education of the City of New York
131 Livingston Street - Room 512
Brooklyn, NY 11201

June 5, 1979

Dear Student or Former Student:

STOP! You have been selected to participate in a special survey to help us plan occupational training programs for future students.

You can help us by completing the attached career choice questionnaire. There are two parts. Part I asks about your job training experiences and some plans. Part II asks you to respond to some ideas about career choice in general. Of course, all answers are confidential.

You are our most important source of information. Please give future students the benefit of your experience by completing the enclosed questionnaire and returning it in the stamped envelope provided.

Thank you for your cooperation.

Yours truly,

Deborah E. Perlmutter

Deborah E. Perlmutter, Coordinator
Project STOP

P.S. Any questions? Call Mrs. Perlmutter at 858-6940.

System-Wide Tests of Occupational Programs
Center for Career and Occupational Education
Board of Education of the City of New York
131 Livingston Street - Room 512
Brooklyn, NY 11201 Telephone# 858-6940

July 9, 1979

Dear Student or Former Student:

STOP - Please don't throw this away!

Early in June, you were sent a questionnaire concerning your occupational training and career choice. We need your questionnaire to complete the study.

Enclosed is a second copy of the questionnaire. Please fill it out and return it to us in the pre-addressed envelope.

The information which is being gathered is strictly confidential.

Please help us improve programs for future students - perhaps for younger people you know.

MAKE YOUR OPINION COUNT. LET US COUNT IT!

Yours truly,

Deborah E. Perlmutter

Deborah E. Perlmutter
Project STOP

DEP:bj
Enclosure

Board of Education of the City of New York
Center for Career and Occupational Education
Project STOP
Career Choice Survey

Part 1

CHECK THE CORRECT ANSWER

1. Since you have been in high school, have you taken any course offering JOB TRAINING AFTER SCHOOL OR ON THE WEEKENDS.

   1) ____ yes, in a free program: FILL IN SCHOOL NAME________________________

   2) ____ yes, in a private trade school: FILL IN SCHOOL NAME________________________

   3) ____ no, (IF NO, SKIP TO QUESTION 3)

2. Listed below are 5 major job areas, with examples in each. IF YOU TOOK A JOB TRAINING COURSE AFTER SCHOOL OR ON THE WEEKENDS, WHILE YOU WERE GOING TO HIGH SCHOOL, check the area that comes closest.

   1) ____ CLERICAL OR BUSINESS (typing, filing, selling, data processing, etc.)

   2) ____ MECHANICS OR CONSTRUCTION (auto repair, printing, carpentry, etc.)

   3) ____ SERVICES TO PEOPLE (child care, food preparation, cosmetology, etc.)

   4) ____ AGRIUCLTURE (plant or animal care)

   5) ____ ARTS (music, acting, photography, etc.)

3. Which of the following best matches your plans for finishing high school? (CHECK ONE)

   1) ____ Graduate from high school with a regular diploma

   2) ____ Get a high school equivalency diploma

   3) ____ Go to work and finish school at the same time

   4) ____ Go to work and forget about school

   5) ____ I have already graduated

   6) ____ Other: FILL IN________________________________

4. At this point, what do you plan to do after you finish high school? (CHECK ONE)

   1) ____ Go to a four year college

   2) ____ Go to a two year college

   3) ____ Go to a technical or trade school

   4) ____ Go directly to work full-time

   5) ____ Go to school and work

   6) ____Undecided

Part 2

DIRECTIONS: Here are a number of statements about career choice. Read each statement and mark your answer right next to it. If you agree or mostly agree with the statement, circle Ⓣ for True. If you disagree or mostly disagree with the statement, circle Ⓕ for False.

Sample: I am answering a questionnaire. Ⓣ F
The answer to the sample is True. The letter Ⓣ is circled.

Please be sure to answer each statement. If you are not sure make your best guess

1 Once you choose a job, you can't choose another one. T F

2 In order to choose a job, you need to know what kind of person you are. T F

3 I plan to follow the line of work my parents suggest. T F

4 I guess everybody has to go to work sooner or later, but I don't look forward to it. T

5 A person can do any kind of work he wants as long as he tries hard. T F

6 I'm not going to worry about choosing an occupation until I'm out of school. T F

7 Your job is important because it determines how much you can earn. T F

8 Work is worthwhile mainly because it lets you buy the things you want. T F

9 The greatest appeal of a job to me is the opportunity it provides for getting ahead. T F

10 I often daydream about what I want to be, but I really haven't chosen a line of work yet. T F

11 Knowing what you are good at is more important than knowing what you like in choosing an occupation. T F

12 Your parents probably know better than anybody else which occupation you should enter. T F

13 If I can just help others in my work, I'll be happy. T F

14 Work is dull and unpleasant. T F

15 Everyone seems to tell me something different; as a result I don't know which kind of work to choose. T F

16 I don't know how to go about getting into the kind of work I want to do. T F

17 There is no point deciding on a job when the future is so uncertain. T F

18 I spend a lot of time wishing I could do work I know I can never do. T F

19 I don't know what courses I should take in school. T F

20 It's probably just as easy to be successful in one occupation as it is in another. T F

21 By the time you are 15, you should have your mind pretty well made up about the occupation you intend to enter. T F

22 There are so many things to consider in choosing an occupation, it is hard to make a decision. T F

23 I seldom think about the job I want to enter. T F

24 It doesn't matter which job you choose as long as it pays well. T F

25 You can't go very far wrong by following your parents' advice about which job to choose. T F

26 Working is much like going to school. T F

27 I am having difficulty in preparing myself for the work I want to do. T F

28 I know very little about the requirements of jobs. T F

29 The job I choose has to give me plenty of freedom to do what I want. T F

30 The best thing to do is to try out several jobs, and then choose the one you like best. T F

31 There is only one occupation for each person.

32 Whether you are interested in a particular kind of work is not as important as whether you can do it. T F

33 I can't understand how some people can be so certain about what they want to do. T F

34 As long as I can remember, I've known what kind of work I want to do. T F

35 I want to really accomplish something in my work - to make a great discovery or earn a lot of money or help a great number of people. T F

36 You get into an occupation mostly by chance. T F

37 It's who you know, not what you know, that's important in a job. T F

38 When it comes to choosing a job, I'll make up my own mind. T F

39 You should choose an occupation which gives you a chance to help others. T F

40 When I am trying to study, I often find myself daydreaming about what it will be like when I start working. T F

41 I have little or no idea of what working will be like. T F

42 You should choose an occupation, then plan how to enter it. T F

43 I really can't find any work that has much appeal to me. T F

44 You should choose a job in which you can someday become famous. T F

45 If you have some doubts about what you want to do, ask your parents or friends for advice and suggestions. T F

46 You should choose a job which allows you to do what you believe in. T F

47 The most important part of work is the pleasure which comes from doing it. T F

48 I keep changing my occupational choice. T F

49 As far as choosing an occupation is concerned, something will come along sooner or later. T F

50 I am not going to worry about choosing a job since you don't have anything to say about it anyway. T F

THANK YOU FOR COMPLETING THIS SURVEY.
PLEASE MAIL IT BACK TODAY.

Project STOP
Center for Career and Occupational Education
New York City Board of Education

APPENDIX H

Job Training Survey

System-Wide Tests of Occupational Programs
Center for Career and Occupational Education
Board of Education of the City of New York
131 Livingston Street - Room 512
Brooklyn, NY 11201

June 5, 1979

Dear Student or Former Student:

STOP! You have been selected to participate in a special survey to help us plan occupational training programs for future students.

You can help us by answering a few questions about your job training and work experience in the last couple of years, of course, the information you share with us will be confidential.

You are our most important source of information. Please give future students the benefit of your experience by completing the enclosed questionnaire and returning it in the stamped envelope provided.

Thank you for your cooperation.

Yours truly,

Deborah E. Perlmutter

Deborah E. Perlmutter, Coordinator
Project STOP

P.S. Any questions? Call Mrs. Perlmutter at 858-6940.

System-Wide Tests of Occupational Programs
Center for Career and Occupational Education
Board of Education of the City of New York
131 Livingston Street - Room 512
Brooklyn, NY 11201 Telephone# 858-6940

July 9, 1979

Dear Student or Former Student:

STOP - Please don't throw this away!

Early in June, you were sent a questionnaire concerning your occupational training and career choice. We need your questionnaire to complete the study.

Enclosed is a second copy of the questionnaire. Please fill it out and return it to us in the pre-addressed envelope.

The information which is being gathered is strictly confidential.

Please help us improve programs for future students - perhaps for younger people you know.

MAKE YOUR OPINION COUNT. LET US COUNT IT!

Yours truly,

Deborah E. Perlmutter

Deborah E. Perlmutter
Project STOP

DEP:bj
Enclosure

Board of Education of the City of New York
Center for Career and Occupational Education
Project STOP
Job Training Survey

1. Check the last term you attended a "regular" academic or vocational New York City high school.

    ____ Fall 1976 ____ Spring 1977 ____ Fall 1977

    ____ Spring 1978 ____ Fall 1978 ____ Spring 1979 (This term)

2. Fill in the name of the last "regular" New York City high school you attended:

    ____

3. While you were attending this high school, did you take any courses offering JOB TRAINING AFTER SCHOOL OR ON THE WEEKENDS?

    1) ____ yes, in a free program: FILL IN SCHOOL NAME______________________

    2) ____ yes, in a private trade school: FILL IN SCHOOL NAME______________________

    3) ____ no, (IF NO, SKIP TO QUESTION 5)

4. Listed below are 5 major job areas, with examples in each. IF YOU TOOK A JOB TRAINING COURSE AFTER SCHOOL OR ON THE WEEKENDS, WHILE YOU WERE GOING TO HIGH SCHOOL, check the area that comes closest.

    1)____ CLERICAL OR BUSINESS (typing, filing, selling, data processing, etc.)

    2)____ MECHANICS OR CONSTRUCTION (auto repair, printing, carpentry, etc.)

    3)____ SERVICES TO PEOPLE (child care, food preparation, cosmetology, etc.)

    4)____ AGRICULTURE (plant or animal care)

    5)____ ARTS (music, acting, photography, etc.)

5. AFTER you left that New York City High School, did you take any courses offering job training?

    ____ yes, in a free program: FILL IN SCHOOL NAME______________________

    ____ yes, in a private trade school: FILL IN SCHOOL NAME______________________

    ____ no (IF NO, SKIP TO QUESTION 7)

6. Listed below are 5 major job areas, with examples in each. If you took a JOB TRAINING COURSE AFTER LEAVING HIGH SCHOOL, check the area that comes closest.

    1) ____ CLERICAL OR BUSINESS (typing, filing, selling, data processing, etc.)

    2) ____ MECHANICS OR CONSTRUCTION (auto repair, printing, carpentry, etc.)

    3) ____ SERVICES TO PEOPLE (child care, food preparation, cosmetology, etc.)

    4) ____ AGRICULTURE (plant or animal care)

    5) ____ ARTS (music, acting, photography, etc.)

7. Since you left that New York City High School, have you worked?

____ yes, I'm working now

____ yes, but I'm not working now.

____ no (IF NO, SKIP TO QUESTION 9)

8. Listed below are 5 major job areas. You will see examples in each. IF YOU HAVE WORKED SINCE LEAVING HIGH SCHOOL, check the job area that comes closest.

1) ____CLERICAL OR BUSINESS (typing, filing, selling, data processing, etc.)

2) ____MECHANICS OR CONSTRUCTION (auto repair, printing, carpentry, etc.)

3) ____SERVICES TO PEOPLE (child care, food preparation, cosmetology, etc.)

4) ____AGRICULTURE (plant or animal care)

5) ____ARTS (music, acting, photography, etc.)

9. Check the activity (or activities) that comes closest to what you are now doing.

1) ____Going to an alternative or private high school in New York City: FILL IN SCHOOL NAME________________________________

2) ____Going to a high school outside of New York City: FILL IN SCHOOL NAME
____

3) ____Preparing for the High School Equivalency Test

4) ____Going to a trade school: FILL IN SCHOOL NAME__________________________

5) ____Working

6) ____Looking for a job

7) ____Other: PLEASE EXPLAIN____

10. Would you like to receive job training at this point in your life?

____ yes

____ no (IF NO, SKIP QUESTION 11)

11. Listed below are 5 major job areas. You will see examples in each. Although you may not see the exact job you would like, check the kind of training that comes closest to your choice.

1)____CLERICAL OR BUSINESS (typing, filing, selling, data processing, etc.)

2)____MECHANICS OR CONSTRUCTION (auto repair, printing, carpentry, etc.)

3)____SERVICES TO PEOPLE (child care, food preparation, cosmetology, etc.)

4)____AGRICULTURE (plant or animal care)

5)____ARTS (music, acting, photography, etc.)

THANK YOU FOR COMPLETING THIS SURVEY.
PLEASE MAIL IT BACK TODAY.

PART II

CAREERS IN AUTOMOTIVES RESEARCH:

A FOLLOW-UP STUDY OF GRADUATES OF AUTOMOTIVE TRAINING PROGRAMS

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INTRODUCTION

Project CAR - Careers in Automotives Research was designed to determine the effect of different modes of occupational training on students, attainment of occupational and educational goals, and on their actual work performance after high school. It was funded from February to June 1977 and April 1978 to December 1979 by VEA grants, 78-3A-729, 79-3A-901, CO 79-3A-1024.

There are presently several forms of secondary level occupational training programs available to New York City students. A student can learn a trade by:

1. Attending a three year program in a unit or multi-trade Vocational High School;
2. Studying similar subjects in a Comprehensive High School;
3. Enrolling in occupational courses offered at certain Academic High Schools;
4. Participating in the Shared Instruction Program;
5. Attending an After School Occupational Skills Program.

Automotive training was chosen for exploration because it is one of the occupational areas offered by each of the programs listed above.

Throughout the research a dual emphasis on graduate and employer was maintained. First, graduates were seen as the consumers of occupational training and their evaluation of the training was sought. Their evaluation included direct questioning about the value of types of training and where lesser or greater instruction was needed. It also included a less direct measure of program success - an examination of the degree to which graduates were able to carry out their plans for work and/or post-secondary education. Second, employers were seen as the consumers (in this case graduates represent the products of occupational training) and their evaluation of programs was sought by means of their rating graduates now in their employ.

Four chronological surveys were conducted:

> Survey I: The Senior Survey (Appendix A) was conducted at sites chosen to represent the high school programs above. Candidates for graduation were surveyed about their work and educational plans after graduation. Those willing to participate in a continued follow-up so indicated and gave some additional information on their current employment status.
>
> Survey II: The One-Year Follow-up (Appendix B) was mailed to volunteers culled from the Senior Survey. It asked for information on current job and educational activities and for an evaluation of some aspects of the high school program. Currently employed graduates were asked for their employers' names.

Survey III: The Employer Evaluation (Appendices D-I) was sent to the employer identified by the graduates in Survey II approximately 18 months after graduation. Employers were asked, by mail, to complete an Employee Rating Scale and answer some questions on the bases for hiring and length of employment. Two somewhat different scales were used, one for graduates on jobs related to automotives, and another for non-related jobs.

Survey IV: The Two-Year Follow-up (Appendix J) was used to survey all graduates who had responded to the One-Year Follow-Up. They were surveyed by telephone as to their current job and educational activities. These activities were compared to what they had been doing the previous year as well as to their plans as stated in high school.

There are six chpaters in this section. The first four correspond to the four surveys. The fifth is a portrait of the graduate who enters a related job as compared to the one who is working in a non-related field. The final section offers a summary and recommendations.

CHAPTER 1

SURVEY I: THE SENIOR SURVEY

Objectives

The major purpose of the senior survey was to determine the work and educational plans of seniors after graduation. It was also hoped that a sufficient number would volunteer for the continued follow-up. Survey results would thus provide information on the differences and similarities in plans by program and length of study as well as a basis for assessing the ability to carry out plans.

In addition to the major survey, informal interviews were designed to elicit the observations and assessments of a subsample of the groups.

The objectives were:

1. To survey at least 750 students who plan graduating in June 1977 with training for employment in automotive services and to develop information on specific interests and plans.
2. To contact at least 250 students from the different automotive training facilities and to establish procedures for follow-up subsequent to their graduation.
3. To carry out 50 in-depth interviews with a subgroup of the respondents.

Instrument Developlment

A number of survey procedures and formats were examined (SIRF, 1975; Comp 1971; Harris, 1972, McCracken, 1972; Orlech, 1975; Rosenberg, 1968) and drawing heavily on the experience in Project CATCH - Career Training Choice - another VEA funded research project, the Senior Survey was developed and informally tested for clarity on a small group of seniors. The instrument was devised so that the necessary information could be readily abstracted and tabulated.

The Senior Survey was divided into two sections. Part I yielded information on the educational and occupational plans of the respondents. Part II yielded more detailed information on those seniors who volunteered to participate in the extended follow-up in FY'78. A set of directions was developed for the administration of the survey. These directions made it possible to complete the survey in the alloted amount of time with the minimal interruption of classes. (See Appendix A: Senior Survey and Directions)

Sample Selection

Sites

Fourteen sites at which seniors were in automotive training in the five types of programs were selected for the study. The criteria for the selection of the fourteen schools included five borough representation, high concentration of automotive trade students and a willingness to cooperate on the part of the administration and faculty. All seniors present on a given day were to be surveyed. The programs and representative sites selected were:

Program	Site
1. Vocational HS	Automotive HS (Unit Trade) William E. Grady Vocational HS (Multi-Trade) Ralph R. McKee Vocational HS (Multi-Trade) Alfred E. Smith Vocational HS (Multi-Trade)
2. Comprehensive HS	South Shore HS Tottenville HS
3. Academic HS	Canarsie HS Sheepshead Bay HS
4. Shared Instruction Program	Automotive HS Thomas A. Edison Vocational HS William E. Grady Vocational HS Ralph R. McKee Vocational HS
5. After School Occupational Skills Program	Automotive Vocational HS Tottenville HS

Program Offerings

A brief description of the occupational training offerings in the high school programs under study in 1977 is given in the section below with some notes on the differences by site.

1. Vocational High School: The curriculum at Automotive High School is divided into two primary fields: Auto Mechanics and Auto Body Repair and Paint Trades. The emphasis of the ninth year curriculum is basically a hands-on exploratory experience. The tenth year is an attempt to prepare students for specialization or the selection of a major area. The courses enable a student to acquire varying degrees of saleable skills. The eleventh year program differentiates the courses of study between Auto Mechanics and Auto Body Repair and Paint. Students are expected to select one of these trades. The twelfth year provides the students with live service experiences. The program is designed to reflect specialty shops to the extent possible: Tune Up and Auto Electric, Air Conditioning, etc. Important aspects of the twelfth year program include a Cooperative Work-Study Plan for one group of students and for the other Academic Subject classes and Auto Shop classes on alternate weeks.

Alfred E. Smith conducts the same program with an additional General Motors Training Program open to specially selected students who have achieved an 8.0 reading grade, a good cumulative average,and the recommendations of three shop teachers.

William Grady and Ralph McKee High Schools offer similar programs in Auto Mechanics. They do not have Auto Body Repair and Paint. Neither of the schools have Cooperative Work-Study or Educational/Automotive components.

2. Comprehensive High School: Tottenville's approach is basically interdisciplinary. It is a three year sequence in automotive occupational training. The sophomore year is exploratory. The junior year is an intermediate automotive sequence,and the students pursue a related academic subject. The senior year is devoted to advanced live automotive work. Students without automotive background may take an auto body course for one year.

South Shore's automotive curriculum offers a special program, Automotive Professional Training sponsored by the Shell Oil Company. This program prepares the student for the world of business. APT (Automotive Professional Training) teaches the student expert skill in caring for the car and managing a gas station, as well as concerning itself with learning the value of good customer service. In order to qualify for the APT Program,a student must take a transportation course for a year. This course is open to 9th, 10th,and 11th year students. The APT Program is only offered to 11th and 12th year students.

3. Academic High School: The automotive courses in both Sheepshead Bay and Canarsie High Schools are designed to provide fundamentals rather than career alternatives. This statement does not mean to imply that entry level employment is impossible. In fact, for ambitious and able students it is quite possible.

Sheepshead Bay offers a maximum of a two year program. In the first year, it is anticipated that a student will learn about cars in general and this information may enable him or her to work in a local gasoline station. The second year's course is open to students who apply and are selected. It is an advanced course and the students learn in a live shop. The first year's course is open to eleventh year students.

Canarsie offers a two year sequence. One course, Automotive Essentials, is open to eleventh and/or twelfth year students. The major purpose of the course is to familiarize the students with the automobile from the viewpoint of an owner and/or user. It includes elementary trouble shooting and "hands-on" activities as well. The second year's power mechanics is offered to eleventh and/or twelfth year students. The purpose of this course is to provide students with a knowledge of mechanical, electrical and hydraulic systems. In addition, students will develop the ability to maintain, repair and rebuild automotive systems. Completers of the program have found employment in the field.

4. Shared Instructional Program (SIP): Facilities are offered to students who are unable to elect automotive courses in their home schools. These students are included in the receiving schools regular automotive classes. The only exception to this program is Automotive High School which utilizes the modular concept in an extended day.

5. After School Occupational Skills Program (ASOSP): The thrust of this program is to provide occupational training to students who have not pursued a three year sequence in automotives in their home school. The content organization of the courses is in modular form. Modules are developed so that the necessary competencies may be mastered for a given specific entry level job in an occupational area such as State Vehicle Safety Inspector which requires a suggested forty hours. Students, at this time and at various facilities, may select Auto Mechanic, Auto Electricity, Auto Body and Painting, Service Station Attendant, Auto Repair, Auto Maintenance , or Automotive Skills. This program takes place after school.

Techniques and Responses

The survey was conducted in the participating schools in June 1977 just prior to the end of classes for the year.

Arrangements were made with principals, department chairpersons, and faculty to visit each school for administration of the survey. In some schools, where classes were composed completely of seniors, entire classes were surveyed at once. In other situations, the seniors in the program were assembled for the necessary time period in a separate classroom. The Project Coordinator or Assistant Coordinator read the directions, distributed questionnaires, answered questions,and collected responses.

Of the 757 seniors registered at the 14 sites selected, 501 responded to the survey in June 1977. Of these, 303 volunteered to become participants in the follow-up study. The responses of students were grouped by program and then regrouped according to length of study, in Table 1, Responses to Senior Survey - By Program and Site. (See page 120.)

Analysis

Plans by Programs

The first analysis dealt with the overall plans of the students for college and work as grouped according to program. These are detailed in Table 2, Plans for Seniors Surveyed June 1977 - Percent by Program. (See page 121.) The results include:

Plans for college:

- 57.7% of all students enrolled in automotive programs planned to attend a post-secondary school.

Table I

Responses to Senior Survey

By Program and Site

Program	Number Responses	Relative Frequency (%)
Unit Trade Schools	141	28.1
Automotive HS	141	
Multi Trade Schools	106	21.2
Grady HS	26	
McKee HS	15	
Smith HS	65	
Comprehensive Schools	103	20.6
South Shore HS	77	
Tottenville HS	26	
Academic Schools	81	16.2
Canarsie HS	48	
Sheepshead Bay HS	33	
ASOSP*	28	5.6
Automotive HS	23	
Tottenville HS	5	
SIP**	42	8.4
Automotive HS	10	
Edison HS	27	
Grady HS	3	
McKee HS	2	
Grand Total	501	100.0

* After School Occupational Skills Program
** Shared Instruction Program

Table 2

Plans of Seniors Surveyed June 1977

Percent By Program

Program	Plans to Enter College					Coll. Rel. Auto	Plans to Work			Work Rel. Auto	Coll. and Work	Now Employed	Job Rel. Auto	Number Respondents
	4 Year	2 Year	Tech.	Near Future	None		Full time	Part time	None					
Unit Trade HS	17.0	19.9	12.1	26.2	24.8	72.6	53.2	20.6	26.2	90.4	31.2	41.1	43.1	141
Multi-Trade HS	8.5	21.7	5.7	41.5	22.6	75.6	58.5	15.1	26.4	79.5	23.6	40.6	51.2	106
Comprehensive HS	33.0	28.2	15.5	13.6	9.7	33.3	30.1	52.4	17.5	61.2	64.1	54.4	25.0	103
Academic HS	24.7	40.7	18.5	10.0	6.2	42.1	22.2	43.2	34.6	54.7	50.6	49.4	25.0	81
ASOSP*	3.6	14.3	7.1	42.9	32.1	63.2	57.1	14.3	28.6	85.0	14.3	21.4	16.7	28
SIP**	40.5	21.4	4.8	28.6	4.8	50.0	31.0	33.3	35.7	63.0	40.4	21.4	22.2	42
TOTAL	21.0	25.1	11.6	25.3	17.0	56.3	42.9	30.3	26.7	73.8	39.3	42.3	34.9	501

*After School Occupational Skills Program
**Shared Instruction Program

- Of this percentage, it is interesting to note that 21% plan to attend a four year college program.
- 56.3% of all students continuing their education planned to pursue studies related to automotives.
- Approximately 90% more graduates of Vocational High Schools who planned to attend college intended to pursue programs related to automotives than graduates of other automotive programs.

Plans for work:

- 73.2% of all graduates in the automotive program planned to work part-time or full-time.
- 85.7% of all graduates of vocational high schools planning to work, planned to seek work related to automotives.
- Of the 42.3% of seniors employed, 37.9% were in automotive related jobs.

Plans by Length of Study

The plans of the same survey respondents may be examined from another point of view , namely, length of study. For this purpose, the data were reclassified into the following groupings:

A. Respondents enrolled in automotive occupational training for three more years;

B. Respondents enrolled for 1 1/2 to 2 1/2 years;

C. Respondents enrolled for 1 year or less.

The results summarized below, showed striking trends for these three groups Details are in Table 3, Plans of Seniors Surveyed - Percent by Length of Study and Program; and Table 4, Plans of Seniors Surveyed - Number by Length of Study and Program. The strong relationships between length of study and program should be noted. (See page 123-124.)

Plans for college:

- 75.5% of all students who were enrolled in an automotive program for three or more years planned to attend a post-secondary school.
- 85.2% of all students who were enrolled in an automotive program for one year or less planned to attend a post-secondary school.

Table 3

Plans of Seniors Surveyed

Percent by Length of Study and Program

Number of years of study	Plans to Enter College					Coll. Rel. Auto	Plans to Work			Work Rel. Auto	Coll. and Work	Now Employed	Job Rel. Auto	Number Respondents
	4 Year	2 Year	Tech.	Near Future	None		Full time	Part time	None					
3 years or more	11.5	20.9	8.1	35.0	24.4	70.6	56.5	19.2	24.4	88.7	27.8	38.9	45.1	234
Vocational	13.0	21.2	4.9	35.9	25	68.8	57.1	38.1	26.0	87.6	25.5	40.2	47.3	184
Academic/Comp.	8.0	24.0	32.0	20.0	16.0	81.0	44.0	44.0	12.0	95.5	48.0	52.0	38.0	25
ASOSP/SIP*	4.0	16.0	8.0	44.0	28.0	72.2	64.0	8.0	28.0	88.9	24.0	16.0	25.0	25
3 terms to 4-5 terms	18.6	20.9	20.9	24.8	14.7	68.2	39.5	32.6	27.9	78.5	39.5	45.7	44.1	129
Vocational	14.8	19.7	21.3	24.6	19.7	87.8	50.8	21.3	27.9	79.5	36.1	44.3	44.4	61
Academic/Comp.	22.0	26.0	24.0	20.0	8.0	50.0	26.0	52.0	22.0	74.4	52.0	58.0	44.8	50
ASOSP/SIP	22.2	11.1	11.1	38.9	16.7	60.0	38.9	16.7	44.4	90.0	16.7	16.7	33.3	18
1 term or less to 1 year	39.1	36.2	8.7	9.4	6.5	26.4	23.2	47.1	29.7	42.3	58.7	44.9	11.3	138
Vocational	0	0	50.0	0	50.0	100	50.0	0	50.0	100	0	0	0	2
Academic/Comp.	37.6	39.4	10.1	6.4	6.4	22.5	22.9	47.7	29.4	40.3	63.3	49.5	11.1	109
ASOSP/SIP *	48.1	25.9	0	22.2	3.7	38.5	22.2	48.1	29.6	47.4	44.4	29.6	12.5	27
Totals	21.0	25.1	11.6	25.3	17.0	56.3	42.9	30.3	26.7	73.8	39.3	42.3	34.9	501

*After School Occupational Skills Program/Shared Instruction Program

Table 4

Plans of Seniors Surveyed

Number by Length of Study and Program

Number of years of study	Plans to Enter College					Coll. Rel. Auto	Plans to Work			Work Rel. Auto	Coll. and Work	Now Employed	Job Rel. Auto	Number Respondents
	4 Year	2 Year	Tech.	Near Future	None		Full time	Part time	None					
3 years or more	27	49	19	82	57	125	132	45	57	157	65	91	41	234
Vocational	24	39	9	66	46	95	105	32	47	120	47	74	35	184
Academic/Comp.	2	6	8	5	4	17	11	11	3	21	12	13	5	25
ASOSP/SIP*	1	4	2	11	7	13	16	2	7	16	6	4	1	25
3 terms to 4 to 5 terms	24	27	27	32	19	75	51	42	36	73	51	59	26	129
Vocational	9	12	13	15	12	43	31	13	17	35	22	27	12	61
Academic/Comp.	11	13	12	10	4	23	13	26	11	29	26	29	13	50
ASOSP/SIP*	4	2	2	7	3	9	7	3	8	9	3	3	1	18
1 term or less to 1 year	54	50	12	13	9	34	32	65	41	41	81	62	7	138
Vocational	0	0	1	0	1	1	1	0	1	1	0	0	0	2
Academic/Comp.	41	43	11	7	7	23	25	52	32	31	69	54	6	109
ASOSP/SIP*	13	7	0	6	1	10	6	13	8	9	12	8	1	27
Grand Totals	105	126	58	127	85	234	215	152	134	271	197	212	74	501

*After School Occupational Skills Program/Shared Instruction Program

- 94.3% of all students who were enrolled in an automotive program for one year or less planned to attend a post-secondary graduate school.
- Of those who studied automotives for three years or more, and who planned post-secondary education, 70.6% planned to continue in an automotive related field.
- Of those who studied automotives for 1 1/2 to 2 1/2 years and who planned post-secondary education, 68.2% planned to continue in an automotive related field.
- Of those who studied automotives for one year or less and who planned post-secondary education, 26.4% planned to continue in an automotive related field.

Plans for work:

- 88.7% of all students enrolled in automotives for three or more years and planning to work were interested in finding jobs related to automotives.
- 78.5% of all students enrolled in automotives for one-and-a-half to two-and-a-half years and planning to work were interested in finding jobs related to automotives.
- 42.3% of all students enrolled in automotives for under one year and planning to work were interested in finding jobs related to automotives.

Presently employed

- 38.9% of the students who studied automotives for three or more years were employed as seniors. 45.1% of these students were in jobs related to automotives.
- 45.7% of the students who studied automotives for one-and-a-half years were currently employed as seniors. 44.1% of these students were in jobs related to automotives.
- 44.9% of the students who have studied automotives for one year or less were currently employed as seniors. 11.3% of these students were in jobs related to automotives.

Plans of the Volunteers for Follow-Up

Of the 501 students originally surveyed, 303 volunteered to become participants in the follow-up study. Further information developed from these respondents is included in Table 5, Plans of Volunteers of Seniors Surveyed - Percent by Program. There is no meaningful difference between the volunteers and the total number of responding in plans for post-graduate work, work plans, and work related to automotives. To this extent, they represent the larger group.

Additional information was available for the volunteers on the promise of employment:

- 32.9% of the total number had been promised full or part-time jobs.
- Of the total 307 students, 20.5% had been promised full time jobs as opposed to 45.9% desiring such jobs.
- Of the total 307 students, 12.4% had been promised part-time jobs as opposed to 32.6% desiring such jobs. (See page 127.)

Student Interviews

From the group of 303 volunteers, 50 participated in-depth interviews. The purpose of these interviews was to elicit the observations and assessments of a group of students completing their occupational training.

In general, all students felt that the courses of study offered would enable them to qualify for most entry level positions in the automotive industry. The students in Auto Mechanics believed that they were especially well prepared for work involving brakes, tune-ups, emission, front end, and engine rebuilding. The students in Auto Body Repair and Painting found themselves very well prepared to handle chassis work, including straightening dents, replacing fenders, and appropriate refinishing.

When the students in both trades were asked to make recommendations that would help them become more successful they asked for greater emphasis in the following areas: Electronic ignition, emission control, upholstry, fuel injection, automatic transmission, foreign car repair, customized painting, and fiberglass experiences.

It should be noted that a number of important areas related to the automotive industry were covered in the academic subjects such as English and social studies. For example, students were taught how to complete employment applications and tax returns, handle credit cards, obtain references, and begin to organize a small business.

These business, as opposed to technical, areas were considered of great importance by the students interviewed. They stressed the need for more information on organizing a small business and greater depth on job hunting skills, including in particular, resumé writing.

Table 5

Plans of Volunteers of Seniors Surveyed

Percent by Program

Program	Promised Job		Plans				Work Plans			Number Respondents
	Full time	Part time	School only	School and work	Work only	Other	Full time	Part time	Work related auto	
Unit-Trade	20.7	3.4	16.1	33.3	37.9	12.6	49.4	20.7	93.4	87
Multi-Trade	20.5	10.3	12.8	29.5	52.6	5.1	61.5	20.5	84.4	69
Comprehensive HS	20.9	26.9	9.0	68.7	22.4	0	35.8	55.2	65.6	68
Academic HS	18.9	13.5	29.7	56.8	13.5	0	18.9	51.4	65.4	37
ASOSP*	25.0	18.8	12.5	18.8	56.3	12.5	56.3	18.8	91.7	19
SIP**	18.2	4.5	22.7	45.5	31.8	0	45.5	31.8	76.5	23
Total	20.5	12.4	15.6	43.0	35.8	5.5	45.9	32.6	79.7	303

*After School Occupational Skills Program

**Shared Instruction Program

Many students utilized a variety of ways to find jobs. These procedures included garage by garage canvassing, reading the want ads, placing a situation wanted ad in the local newspaper, using the service of the New York State Employment Agency, utilizing the school's placement counselor, obtaining recommendations from instructors, and having personal contacts in business such as friends and relatives. The entry-level positions sought included mechanical helper, apprentice, auto parts salesman, machnist, welder, painter and similar occupational positions in the military services.

A number of students were planning to enter college and to pursue courses that would enable them to profit from their high school occupational training. For example, students expressed an interest in Business Administration, Electronics,and Accounting as related to the automotives industry. One student planned to study Accounting, with the expectation of working in the administrative office of a large dealership. Further, another small group of students planned to go to technical schools for advanced auto training. Several students sought widely divergent paths which includes computers and architectural landscaping. These students regarded multiple career planning as a key to occupational autonomy.

CHAPTER 2

SURVEY II: THE ONE YEAR FOLLOW-UP

Objectives

The One Year Follow-Up had two major purposes. The first was to see what the graduates had done in the work and educational aspects of their lives and to compare this to their stated expectations. The second was to see how well they believed their high school programs had prepared them for the activities in which they were now engaged.

Three objectives stated in the proposal for research dealt with the first goal. They were:

- To determine the current status of the volunteer subjects in regard to their present school, work plans, names of employers, etc.;
- To determine if there is a relationship between those trained in the six programs of enrollment and post-secondary "success" as measured by subjects meeting the goals expressed in the Spring'77 Senior Survey;
- To determine if there is a relationship between high school performance, as measured by GPA, and post-secondary "success",as measured by subjects meeting the goals expressed in the Spring '77 Senior Survey

Added to these were objectives related to the second goal:

- To determine graduate assessment of the importance of automotive and academic training in work and educational experiences after high school;
- To determine specific job seeking skills which graduates found they required.

Instrument Development

The One-Year Follow-up questionnaires and cover letters (See Appendix B: One Year Follow-Up and Cover Letter) were designed to carry out the survey objectives. They were based on an investigation of previous procedures and instruments,including: (SIRF, 1975; TRACE, 1974; Berry, 1975; Copa, 1973: Davison, 1971; McKinney, 1971; Orlech, 1975; Rosenberg, 1968; Sparks, 1977).

There was a brief field test with high school graduates of approximately the same age as the subjects.

A telephone format (see Appendix C: One Year Follow-up Telephone Format) was also designed to utilize with subjects who did not respond by mail. In this script, the questions were reordered because of differences in trains of thought that occur in a telephone interaction. Before field testing the telephone instrument, role playing situations were used with available personnel of approximately the same age and background as the graduates.

Sample Selection

All of the 303 volunteers from the Senior Survey were used as subjects in the One-Year Follow-up.

Subgroups By High School Program

It was intended that the original grouping by high school program be maintained. They were: Vocational High School Graduates, Comprehensive High School Graduates, Academic High School Graduates, Graduates of the Shared Instruction Program and Graduates who had participated in the After School Occupational Skills Program. However, closer examination of the original survey responses showed all but 2% of the subjects studying in the After School Occupational Skills Program had also studied automotives in the regular program of their school. Since this group with two programs was an anomaly of sorts, it was dropped from further analysis. That left the following distribution for "By Program" Analysis: Vocational Graduates N=156; Comprehensive Graduates N=68; Academic Graduates N=37; Shared Instruction (SIP) Program Graduates N=18; After School Occupational Skills Program Graduates N=2.

Subgroups by High School Average

The 303 sample subjects were regrouped by high school grade point average. Averages computed by the University Application Processing of the City University of New York were obtained from UAPC for all but 28% of the graduates (with the assurance of confidentiality.) The averages ranged from 37.7 to 95.7.

This grouping was subjected to analysis of variance to see if significant differences existed between the groups by program. There was a significant difference (F=11.46, DF=4, $P < .001$) when all five groups were included. However, the sole survivor of the confounded ASOSP group had an average of 40.3 and the mean for the Shared Instruction group was 60.93 (SD=9.65). The mean and standard deviation for the Vocational graduates were M=73.66, SD=7.94, N=63; and for the Academic graduates, M=74.76, SD=9.23, N=32.

The Sheffé procedure, carried out at the .05 level, confirmed the homogeneity of the three subsets apparent above. There appears to be no meaningful difference in high school average by program for graduates of Vocational, Comprehensive, and Academic Programs. Therefore, each of these - high school program and grade point average - may be treated as an independent variable and its relationship to the dependent variables of the study (post-secondary work, educational activities, and job performance) may be examined separately. This is not the case when the Shared Instruction Program graduates are included.

Techniques and Responses

In June 1978, the 303 subjects were mailed the One-Year Follow-up and appropriate cover letter. Of these, 74 or 25.4% responded. An additional 11 surveys were returned as address unknown, etc. A second mailing, later in the month, brought in 20 more usable and 7 more non-usable returns.

The remaining 191 subjects were surveyed by telephone. This added 81 positive responses. Thus 57.8% of the original 303 subjects, a total of 175 responded to the One-Year Follow-up.

The analysis which follows is based on this N of 175.

Analysis

Work Activities

The first set of questions dealth with work activities since graduation. Looking at the group of respondents as a whole the following picture emerges:

Employment one-year after graduation

- 75.3% of the respondents were employed at the time of the survey.
- 53.5% were in full-time and 21.8% in part-time work.
- Of the remaining 24.7%, 11.8% were not seeking employment, 7.6% were looking for a part-time or temporary job, and 5.3% were unemployed and seeking a full-time position.

Auto relatedness of the job

- Of those employed, 27.2% reported they were in jobs "related to automotive training."

Salary (No differentiation was made between those working full-time and those part-time)

- Of those who reported salary, the majority, 54.4% reported earnings in the $100 - 199 per week category.
- 36.0% reported earnings in the category, 0 - $99 per week.
- 9.6% were in the category of $200 or more per week.

First job since graduation

- 160 of the 175 graduates, 91.4% reported they had worked during the past year.
- 28.8% of these graduates had worked in jobs related to automotive training.
- More than half the students, 53.1% reported having worked for two or more employers since graduation.

How did students locate their jobs?

- The greatest number 54.8% found their first job through a relative or friend.
- The remaining responses were: Newspaper, Advertisement 6.5%; High School Placement Office 5.8%; Private Employment Service 5.2%; State Employment Service 3.2%; High School Teacher, 3.2%, and Other, 21.9%.
- The percentage of placements by the high school combining teacher and placement office is 9.1%.

Relationship of Work to High School Program

Responses to four questions were examined, using chi square analysis, to see what relationships, if any, existed between work activities and high school program. The four questions were:

1. *How many employers have you worked for since June 1977?*
   ______ *none*, ______ *1*, ______ *2-4*, ______ *5 or more*

2. *What are you doing now?*

   ____ *Working full-time in a "permanent" job.*
   ____ *Working full-time in a temporary or summer job.*
   ____ *Working part-time* ______________________
   fill in no. hours per week

____ *Not working, looking for a "permanent" job.*
____ *Not working, looking for a temporary or summer job.*
____ *Not working, looking for a part-time job.*
____ *Not working, not looking for a job (student, military, hanging-out, etc.)*

3. *If you are working, is your present job*
____ *Related to automotive training?*
____ *Not related to automotive training?*

4. *If you are working, please check your approximately weekly salary.*
____ *$ 0 - 99 per week*
____ *100 - 199 per week*
____ *200 or more per week*

Significant relationship ($P. < .05$) were found between programs of study and all questions but the first, "number of employers." The details of the analysis are presented in Table 6, One-Year Follow-up - Work Activities by High School Program. A pattern of greater work activity among graduates of Vocational High Schools, Seems to emerge in the analysis.

Current work status

- Of the Vocational High School graduates, 49.4% were employed in full-time, permanent jobs and 27.2% were employed in part-time and full-time temporary jobs.

- Of the Comprehensive High School graduates, 38.5% were employed in full-time, permanent jobs and 36.5% in part-time or temporary jobs.

- Of the Academic graduates, 10.5% were in full-time permanent and 51.9% in part-time or temporary jobs.

- Of the SIP graduates, 66.7% were in part-time or temporary positions.

Current weekly salary

- Of the Vocational graduates employed, 68.9% reported incomes of $100-199 per week.

- 43.2% of the Comprehensive graduates; 33.3% of the Academic graduates and 25.0% of the Shared Instruction graduates reported this range. (It should be noted that the numbers in some of these groups become suspiciously low for meaningful analysis.)

Auto relatedness of job

- Of those responding yes, 63.6% came from the Vocational High Schools; 33.3% from Comprehensive High Schools; 3.0% from Academic High Schools.

TABLE 6

One Year Follow-up
Work Activities by High School Program

A. Current Employment

Count Row Pct. Col. Pct. Total Pct.	Full-Time Permanent	Part-Time and/or Temporary	Not Employed	Row Total
Vocational Graduates	40 49.4 61.5 24.1	22 27.2 37.3 13.3	19 23.5 45.2 11.4	81 48.8
Comprehensive Graduates	20 38.5 30.8 12.0	19 36.5 32.2 11.4	13 25.0 31.0 7.8	52 31.3
Academic Graduates	5 18.5 7.7 3.0	14 51.9 23.7 8.4	8 29.6 19.0 4.8	27 16.3
SIP* Graduates	0 0.0 0.0 0.0	4 66.7 6.8 2.4	2 33.3 4.8 1.2	6 3.6
Column Total	65 39.2	59 35.5	42 25.3	166 100.0

$x^2=13.19$, df=6, P=0.04

B. Approximate Weekly Salary

Count Row Pct. Col. Pct. Total Pct.	0-99	100-199	200 or More	Row Total
Vocational Graduates	14 23.0 32.6 11.7	42 68.9 64.6 35.0	5 8.2 41.7 4.2	61 50.8
Comprehensive Graduates	17 45.9 39.5 14.2	16 43.2 24.6 13.3	4 10.8 33.3 3.3	37 30.8
Academic Graduates	9 50.0 20.9 7.5	6 33.3 9.2 5.0	3 16.7 25.0 2.5	18 15.0
SIP* Graduates	3 75.0 7.0 2.5	1 25.0 1.5 0.8	0 0.0 0.0 0.0	4 3.3
Column Total	43 35.8	65 54.2	12 10.0	120 100.0

$x^2=13.34$, df=6, P=0.038

TABLE 6 (Continued)

C. Auto Relatedness of Present Job

Count Row Pct. Col. Pct. Total Pct.	Not Auto Related	Auto Related	Row Total
Vocational Graduates	40	21	61
	65.6	34.4	50.8
	46.0	63.6	
	33.3	17.5	
Comprehensive Graduates	26	11	37
	70.3	29.7	30.8
	29.9	33.3	
	21.7	9.2	
Academic Graduates	17	1	18
	94.4	5.6	15.0
	19.5	3.0	
	14.2	0.8	
SIP* Graduates	4	0	4
	100.0	0.0	3.3
	4.6	0.0	
	3.3	0.0	
Column Total	87	33	120
	72.5	27.5	100.0

x^2=7.43, df=3, P=0.059

*Shared Instruction Program

Education Activities

When Survey I - The Senior Survey was implemented in June 1971 all subjects were candidates for graduation. Of the 174 responding to the One-Year Follow-up, all but 13 reported they had graduated. None remained in high school. Their post-secondary education activities were:

- One year later, 59.6% were continuing their education. This may be compared to the plans stated by the volunteers, 58.6% of whom said they wanted to continue their education.
- Of those continuing, almost two-thirds (62.7%) were in programs related to automotives.
- Two year colleges were chosen by 56.6%, of those reporting school enrollment.
- Four year colleges were chosen by 27.3% and private occupational schools by 10.1%.
- The remaining responses - apprenticeship training programs, adult occupational classes, on-the-job training,and other - accounted for 6% combined.

Relationship of Education to High School Program

Again, chi square analysis was used to examine the relationship between the responses to two questions on education and high school program:

1. *Are you continuing your education this school year, September 1977 - June 1978?*
   ____ *Yes, in a program related to automotive training.*
   ____ *Yes, in a program not related to automotive training.*
   ____ *No.*

2. *If you are continuing your education, which kind of program have you been enrolled in this school year?*
   ____ *4 year college or university.*
   ____ *2 year college or university.*
   ____ *Private occupational school.*
   ____ *Apprenticeship training program.*
   ____ *Adult occupational classes.*
   ____ *On-the-job training.*
   ____ *Other* ________________________________.
   Please Explain

A significant difference between the behavior of attending school in a related or non-related program and not attending post-secondary school was found by program. There was no significant difference in type of institution by high school program.

In examining Table 7, One-Year Follow-up - Education Activities by High School Program, one may note that, as might be expected, Vocational graduates are less active in the education spheres of their lives immediately after graduation than their peers from Academic or Comprehensive High Schools:

- o 81.4% of Academic graduates; 75.5% of Comprehensive graduates; and 42.7% of Vocational graduates continued education after high school.
- o The greatest difference within a subgroup of related training to non-related training was in the group of Comprehensive graduates. Three to one opted for programs related to automotives.

TABLE 7

One Year Follow-Up Education Activities by High School Program

Count Row Pct. Col. Pct. Total Pct.	Not Continuing Education	In Related Education	In Non-Related Education	Row Total
Vocational Graduates	47	20	15	82
	57.3	24.4	18.3	49.1
	71.2	31.7	39.5	
	28.1	12.0	9.0	
Comprehensive Graduates	13	30	10	53
	24.5	56.6	18.9	31.7
	19.7	47.6	26.3	
	7.8	18.0	6.0	
Academic Graduates	5	12	10	27
	18.5	44.4	37.0	16.2
	7.6	19.0	26.3	
	3.0	7.2	6.0	
SIP* Graduates	1	1	2	4
	25.0	25.0	50.0	2.4
	1.5	1.6	5.3	
	0.6	0.6	1.2	
ASOSP** Graduates	0	0	1	1
	0.0	0.0	100.0	0.6
	0.0	0.0	2.6	
	0.0	0.0	0.6	
Column Total	66	63	38	167
	39.5	37.7	22.8	100.0

$x^2=30.37$, df=8, P=0.000

* Shared Instructional Program

** After School Occupational Skills Program

Implementation of Post-Secondary Plans

A variable considered of great importance in this study was the ability of graduates to carry out their plans for work and for further schooling. Too often, only one type of activity, work, is considered a positive outcome of occupational training. For the purposes of this study, doing what one had planned to do the previous year was considered the positive outcome.

A "matched plan" meant that a student who stated he or she planned to work was doing so; a student who planned to continue his or her education was doing so; and a student who planned to do both was doing both. Of the 169 respondents for whom it was possible to match plans and activities, 88.2% or 149 were carrying out their plans.

Chi square analysis was used to examine possible relationships between high school program and the ability to carry out one's plans. No significant relationship was found.

Possible relationships between grade point average and plan implementation were also examined. Again no significant relationship was found.

One may conclude from this that the occupational programs under study were approximately equal in helping students formulate realistic post-secondary plans and in giving them the wherewithal to carry these out.

Graduates' Evaluation of Programs

At the conclusion of the survey the graduates were asked to evaluate their programs. The questions fell into three categories.

An evaluation of the value of the program to work was asked of all graduates who had worked. The questions were:

1. *If you have worked this year, how important was your automotive training in obtaining your first job since June 1977?*

   ____ *important*
   ____ *relevant, but not very important*
   ____ *not at all important*
   ____ *have not worked since June, 1977*

2. *If you have worked this year, how important was your automotive training in performing on your first job since June 1977?*

   ____ *important*
   ____ *relevant, but not very important*
   ____ *not at all important*
   ____ *have not worked since June 1977.*

3. *For the purpose of your on-the-job performance should the emphasis on the following high school courses have been?*

   Automotive Skills Courses
   ____ *greater*
   ____ *same*
   ____ *less*

   Academic Courses (English, math, etc.)
   ____ *greater*
   ____ *same*
   ____ *less*

   ____ *have not worked*

An evaluation of the value of the program to education was asked of all graduates continuing in school. The question was:

For purposes of your achievement in college or in technical school, should emphasis on the following high school courses have been?

Automotive Skills Course	*Academic Courses (English, math, etc.)*
____ *greater*	____ *greater*
____ *same*	____ *same*
____ *less*	____ *less*

____ *have not continued my education*

An assessment of jobseeking skills needed to be taught was asked of all graduates. The question was:

For purposes of obtaining a job should the emphasis in high school, on each of the following have been? (Check greater, same or less for each item below A - E.)

A. *Knowing how to look for a job (employment agencies, ads, etc.)?*
____ *greater* ____ *same* ____ *less*
B. *Filling out a job application?*
____ *greater* ____ *same* ____ *less*
C. *Having a job interview?*
____ *greater* ____ *same* ____ *less*
D. *Writing a letter or resume to apply for a job?*
____ *greater* ____ *same* ____ *less*
E. *Knowing what a boss or supervisor expects of you?*
____ *greater* ____ *same* ____ *less*

For the questions within each of the three categories above, overall evaluation of the graduates as well as differention by high school program will be presented.

The value of automotive training to work was seen differently by graduates of the various programs, both in relationship to getting a job and to performing on a job. Table 8, One-Year Follow-up - Graduates' Evaluation of Training for Work, includes the overall frequencies of response to each item as well as the chi square analysis by program where significance was found. See page 141-143.

The following responses were meaningful:

- Overall, automotive training was reported as "very important" in getting a job by 24.3% of the population and as relevant, but not important by 12.5%. The group most frequently evaluating it as very important were the SIP graduates, 50.0% of whom gave that response.

- Virtually the same responses were given to the next question which asked for the importance of automotive training in job performance and the breakdown by program was similar. There was again a significant difference by program. It should be noted that there was also a significant relationship between type of high school and the auto-relatedness of job.

- It should not be assumed that the number responding that automotive training was "not at all important" necessarily reflects dissatisfaction. 53.4% of those who had worked responded that they were satisfied with the emphasis on automotive training in their program for the purpose of on-the-job performance. Again a significant difference existed by program with a demand for "greater" emphasis from 42.6% of the Vocational graduates, 15.9% of the Comprehensive graduates, 8.7% of the Academic graduates, and 33.0% of the SIP graduates.

- The demand for emphasis on academic skills for job performance was somewhat higher than that for automotive skills, with 32.6% asking for greater emphasis on academic skills vs. 29.4% asking for greater emphasis on automotive skills. There was no significant difference among programs.

The value of their high school programs to college performance is not significantly different for graduates of the various programs. The graduates showed the following desires for increased preparation:

- It is not surprising to see that 75.5% wanted greater emphasis on academic skills for college preparation. Only 2.9% asked for less emphasis.

- It is interesting to note that 30.0% also asked for greater emphasis on automotive skills for college preparation.

The frequencies for each response are reported in Table 9, One-Year Follow-Up - Graduates' Evaluation of Training for College. (See page 144.)

Job seeking skills were seen as needing greater emphasis by graduates of all programs.

- Of the five skills mentioned in the survey, the one the graduates found most needing greater emphasis was *preparing for a job interview* with 73.5% "greater emphasis" responses.

- The next three skills were close in graduate demand for greater emphasis: *filling out a job application*, 68.9% for greater emphasis; *knowing how to look for a job*, 68.7% for greater emphasis; *writing a letter or resumé for a job*, 67.1% for greater emphasis.

- Although *knowing what a boss or employer expects of you* had a slightly smaller response for greater emphasis - 64.5% - there was a zero response for less emphasis.

The frequency of response for each question is reported in table 10, One-Year Follow-up - Graduates' Demand for Job Seeking Skills. Again, it must be noted that no significant differences existed in the responses of graduates by programs. This demand was universal. (See page 145.)

TABLE 8

One-Year Follow-Up
Graduates' Evaluation of Training for Work

A. Importance of Automotive Training in Obtaining Job - Frequency of Response

Graduate Responses	Absolute Frequency	Relative Frequency
Not at all Important	91	63.2
Relevant Not Very Important	18	12.5
Important	35	24.3

B. Importance of Automotive Training in Obtaining Job - By Program

Count Row Pct. Col. Pct. Total Pct.	Not Important	Relevant	Very Important	Row Total
Vocational Graduates	31	12	20	63
	49.2	19.0	31.7	45.3
	34.8	75.0	58.8	
	22.3	8.6	14.4	
Comprehensive Graduates	34	1	10	45
	75.6	2.2	22.2	32.4
	38.2	6.3	29.4	
	24.5	0.7	7.2	
Academic Graduates	22	2	1	25
	88.0	8.0	4.0	18.0
	24.7	12.5	2.9	
	15.8	1.4	0.7	
SIP* Graduates	2	1	3	6
	33.3	16.7	50.0	4.3
	2.2	6.3	8.8	
	1.4	0.7	2.2	
Column Total	89	16	34	139
	64.0	11.5	24.5	100.0

$x^2=20.45$, df=6, P=0.002

C. Importance of Automotive Training in Job Performance - Frequency of Response

Graduate Responses	Absolute Frequency	Relative Frequency
Not at all Important	95	64.2
Relevant Not Very Important	17	11.5
Important	36	24.3

TABLE 8 (Continued)

D. Importance of Automotive Training on Job Performance - By Program

Count Row Pct. Col. Pct. Total Pct.	Not Important	Relevant	Very Important	Total
Vocational Graduates	34	11	24	69
	49.3	15.9	34.8	48.3
	37.0	68.8	68.6	
	23.8	7.7	16.8	
Comprehensive Graduates	34	2	9	45
	75.6	4.4	20.0	31.5
	37.0	12.5	25.7	
	23.8	1.4	6.3	
Academic Graduates	22	1	1	24
	91.7	4.2	4.2	16.8
	23.9	6.3	2.9	
	15.4	0.7	0.7	
SIP* Graduates	2	2	1	5
	40.0	40.0	20.0	3.5
	2.2	12.5	2.9	
	1.4	1.4	0.7	
Column Total	92	16	35	143
	64.3	11.2	24.5	100.0

$x^2=21.00$, df=6, P=0.001

E. Desired Emphasis on Automotive Skills for Job Performance - Frequency of Response

Graduate Responses	Absolute Frequency	Relative Frequency
Less	25	17.1
Same	78	53.4
Greater	43	29.5

TABLE 8 (Continued)

F. Desired Emphasis on Automotive Skills for Job Performance - By Program

Count Row Pct. Col. Pct. Total Pct.	Less	Same	Greater	Row Total
Vocational	6	33	29	68
Greater	8.8	48.5	42.6	48.2
	24.0	43.4	72.5	
	4.3	23.4	20.6	
Comprehensive	9	28	7	44
Graduates	20.5	63.6	15.9	31.2
	36.0	36.8	17.5	
	6.4	19.9	5.0	
Academic	9	12	2	23
Graduates	39.1	52.2	8.7	16.3
	36.0	15.8	5.0	
	6.4	8.5	1.4	
SIP*	1	3	2	6
Graduates	16.7	50.0	33.3	4.3
	4.0	3.9	5.0	
	0.7	2.1	1.4	
Column Total	25	76	40	141
	17.7	53.9	28.4	100.0

$x^2=20.82$, df=6, P=0.002

G. Desired Emphasis on Academic Skills for Job Performance - Frequency of Response

Graduate Response	Absolute Frequency	Relative Frequency
Less	9	6.3
Same	88	62.0
Greater	45	31.7

* Shared Instruction Program

TABLE 9

One Year Follow-Up
Graduates' Evaluation of Training for College

A. Emphasis on Automotive Skills for College - Frequency of Response

Graduate Response	Absolute Freq.	Relative Freq.
Less	19	17.3
Same	58	52.7
Greater	33	30.0

B. Emphasis on Academic Skills for College - Frequency of Response

Graduate Response	Absolute Freq.	Relative Freq.
Less	4	2.9
Same	30	21.6
Greater	105	75.5

(There are no significant differences by program)

TABLE 10

One Year Follow-Up
Graduates' Demand for Jobseeking Skills

A. Knowing How to Look for a Job

Graduate Response	Absolute Freq.	Relative Freq.
Less	5	3.0
Same	47	28.3
Greater	114	68.7

B. Filling Out a Job Application

Graduate Response	Absolute Freq.	Relative Freq.
Less	3	1.8
Same	49	29.3
Greater	115	68.9

C. Having a Job Interview

Graduate Response	Absolute Freq.	Relative Freq.
Less	6	3.6
Same	38	22.9
Greater	122	73.5

D. Writing a Letter or Resumé to Apply for a Job

Graduate Response	Absolute Freq.	Relative Freq.
Less	9	5.4
Same	46	27.5
Greater	112	67.1

E. Knowing What a Boss or Supervisor Expects of You

Graduate Response	Absolute Freq.	Relative Freq.
Less	0	0.0
Same	49	35.5
Greater	89	64.5

At the conclusion of the survey, graduates were asked:

> *"If you have suggestions for skills that should be taught to improve student preparation for the world of work, please use the bottom and back of this page."*

The responses to this open-ended question echoed the responses to the areas tapped in the student evaluation. Students asked for more academic subjects; they asked for more training and more up-to-date training in specific areas of automotives; and repeatedly they asked for greater help in understanding the world. Some of the comments that occured frequently, albeit in somewhat different forms, included:

- Students need help in the "psychology of doing a better job."
- Students should be taught that not everyone who finishes school is going to get the "perfect job."
- Prepare students to know how the world is so that many of them won't be disappointed.
- Teach students proper dress, how to write resumés, and how to get help in finding a job.
- Give more aid in finding careers. Give more realistic job information.
- Give students a greater sense of responsibility.

CHAPTER 3

SURVEY III: THE EMPLOYER EVALUATION

Objectives

The major purpose of the Employer Evaluation was to assess the degree of employer satisfaction with the occupationally trained graduates. A survey was designed to include the Employee Rating Scale as well as questions about the basis for hiring and job retention.

In line with the major goal of the study - to assess differences and similarities between graduates of different types of occupational training program - objectives included examination of the survey returns by program, and by grade point average.

The objectives as stated in the proposal for this study are:

- To determine if there is a relationship between high school performance, as measured by GPA, and performance groupings on the CAR Employee Rating Scale;
- To assess the competencies of those subjects employed in Automotive related fields;
- To determine if there is a relationship between those trained in the six programs of enrollment and performance groupings on the CAR Employee Rating Scale.

Instrument Development

The first step in the development of the Employee Rating Scale was the interviewing of industry representatives. These included owners and supervisors of a transmission franchise, an owner operated service repair station, a dealership's service department, an owner operated auto leasing firm and an auto parts sales company, as well as representatives of the United Automobile Workers, Local 259. They were all asked the same fundamental question: What skills and competencies are you seeking in a potential employee?

All those interviewed responded willingly and freely. They were convinced that the project had a great deal of merit inasmuch as it attempted to meet the needs of the real business world. As a result of the interviews, a list of 38 potential items was developed. (See Appendix D: Employee Rating Scale - Items Suggested by Employers Interviewed.)

By grouping the items and tallying the employer responses, the scale was reduced to a total of 27 items divided into three categories: mechanical skills and knowledge; working with customers; and personal characteristics. This draft of the Employee Rating Scale was then field tested with five different employers. The employers included an owner operated collision firm, a dealership's service department, a transmission franchise, a tune-up franchise business and an auto part sales company. The employers were asked to respond to a questionnaire with reference to the draft of the scale. (See Appendix E: Draft of Employee Rating Scale - Field Test.) While the employers interviewed found the items on the scale generally clear and relevant, they did make several recommendations. The revisions included the layout of choices and a reconstruction of question D.

The revised CAR Employee Rating Scale was field tested with five additional, different employers. The employers included a dealership's service departments, an owner-operated service station,and an owner-operated auto safety glass and lock company. They were very satisfied with the instrument and offered no suggestions that would have caused any further revisions. The resultant instrument is the CAR Employer Evaluation which includes the Employee Rating Scale. (See Appendix F: Employer Evaluation, Related Employment.)

One further set of revisions was needed. Because there were many graduates in non-related work, the desirability of an Employee Rating Scale of a more general nature became evident. Another VEA funded research project, Employer Measures of Industry Satisfaction, was in progress at the same time. A scale was under development for use in measuring the world of work skills of graduates from a wide variety of occupational training areas. Drawing upon this experience, the items from the CAR Employee Rating Scale, were rephrased to make them more general and yet in line, as far as possible, with the CAR items.

A scale of 14 items was developed for use in the Employer Evaluation of graduates in jobs not related to automotives. The remainder of the instrument is identical to the Employer Evaluation for Automotive Related Jobs, whose scale has 27 items. (See Appendix G: Employer Evaluation, Non-Related Employment)

Two cover letters, for mailing and remailing to non-respondents were composed (See Appendix H: Employer Evaluation Cover Letters) and a telephone script was developed for the final effort to research as many employers as possible. (See Appendix I: Employer Evaluation Telephone Script.)

Sample Selection

Survey II, the One-Year follow-up had asked the graduates for names of employers. Of the 175 respondents, 125 were employed and supplied their employers' names. 37 of these were employers of graduates in automotive-related jobs; 88 were employers in non-related fields.

Techniques and Responses

A mailing was sent to all employers with the appropriate scale for related or non-related employment. A follow-up mailing was sent to non-respondents, and a telephone interview was attempted with those who failed to respond to both mailings.

Of the employers, 38.4% responded to the mailings. An additional 34.4% responded to the telephone survey. The remainder were unable to be reached because the letters were returned to sender, phones disconnected, etc. The result was a small number for analysis: 22 related employers and 59 non-related employers.

Analysis

There are several aspects to be examined in the Employer Evaluation:

- Responses to the Employee Rating Scale for related employment.
- Responses to the Employee Rating Scale for general (non-related) employment.
- Responses to questions regarding basis for hire and job retention for related employment.
- Responses to questions regarding basis for hire and job retention for non-related employment.

The analysis reveals a generally high level of employer satisfaction with graduates in both related and in non-related employment. Neither analysis of scale scores by high school program, nor analysis of scale scores by grade point average shows any significant differences between groups. Similarly there are no significant differences among the graduates by high school program, or grade point average, with respect to whether or not occupational training was the basis for hiring or whether or not the graduate was still employed. It may be recalled that the analysis of student responses did reveal a significant difference, by high school program, in whether or not the student was in related employment, the greatest percentage of those coming from the Vocational High Schools. Chapter 5 of this section depicts the relevant responses to all the surveys for those who entered related employment and for those who entered other fields of work.

Response to the Employee Rating Scale - Related Employment

The Employee Rating Scale is composed of 27 items, with a three point scale ranging from 1 for "Inadequate" to 3 for "More Than Adequate." "Two additional possible responses to each item were "Insufficient Information" and "Not Applicable."

The first step in scoring the scale was to see which questions had more than a 15% response of "Insufficient Information" and/or "Not Applicable." These items were eliminated from the computation of the scale total. The remaining items were summed and averaged for each subject and then across the group. The items which remained on the scale total scoring were:

1. *Is familiar with auto parts.*
2. *Is familiar with necessary tools.*
3. *Is able to handle sophisticated equipment.*
4. *Knows principles of automobile operations*
5. *Has mechanical reasoning.*
6. *Has electrical reasoning.*
11. *Has regard for safety requirements.*
12. *Can follow oral work directions.*
13. *Is a productive worker.*
18. *Appears courteous, well mannered.*
19. *Has necessary physical qualifications (strength, endurance, vision, etc.)*
20. *Works well with fellow employees.*
21. *Works well with immediate supervisor.*
22. *Arrives on time (punctuality).*
23. *Comes to work regularly (attendance).*
24. *Follows through on a job assignment.*
25. *Shows self control (copes well with anger, frustration).*
26. *Able to take criticism.*
27. *Shows desire to improve skills.*

The items removed were:

7. *Shows talent in job performance (metal work, painting, etc.)*
8. *Has one area of specialization (brakes, transmission, etc.)*
9. *Finds necessary information in printed material.*
10. *Can apply printed matter to job (manuals, diagrams).*
14. *Is able to write up bills, handle cash slips, etc.*
15. *Can make accurate cost estimates.*
16. *Can make accurate time estimates.*
17. *Can communicate above to customers.*

The major reason for item removal was the response "Not Applicable." This response, not applicable, was given by almost half of those responding to two items: *Can make accurate cost estimates; Can make accurate time estimates*, Frequency of item responses and item means are reported in Table 11, Related Employee Rating Scale - Item Analysis. The Related Employee Rating Scale produced the following findings:

- The resulting Related Employee Rating Scale mean was 2.40, with a standard deviation of .528 (N=18).

- The highest item means, those at 2.5 and above, were for the following items: *Has necessary physical qualifications; Works well with fellow employees; Works well with immediate supervisor; Arrives on time; Follows through on assignments; and Shows desire to improve*

- o Most item means clustered around 2.3 - 2.49. No item fell below 2.0. The lowest item, with a mean of 2.0, was *Has electrical reasoning*.

For purposes of comparison with the scale used in non-related employment, a second computation of scale mean using identical and similar items was computed. /Items ((1 + 2 + 3)/3)+ 12 + 13 + 19 + 20 + 21 + 22 + 23 + 24 + 25 + 26 + 27/12/. The first three items on the related scale (*Is familiar with auto parts; Is familiar with necessary tools; Is able to handle sophisticated equipment*) were averaged to correspond to Item 18 of the non-related scale (*Is familiar with necessary equipment*). None of the previously eliminated items was included. The resulting mean for the Related Employee Rating Scale (converted) was 2.54 (SD=.462, N=19). (See page 152.)

Responses to the General Employee Rating Scale - Non-Related Employment

The steps used in analyzing the Employee Rating Scale for automotive related employment were repeated with the general scale. Items which had a 15% or more response of "Insufficient Information" or "Not Applicable" were removed. The remaining items were summed and totaled for each subject, then across the groups. In this case, only one item was eliminated: *Finds necessary information in printed material.*

The 13 remaining items are:

1. *Is familiar with necessary equipment.*
2. *Shows talent in job performance.*
4. *Can follow oral work directions.*
5. *Is a productive worker.*
6. *Has necessary physical qualifications (strength, endurance, vision, etc.)*
7. *Works well with fellow employees.*
8. *Works well with immediate supervisor.*
9. *Arrives on time (punctuality).*
10. *Comes to work regularly (attendance).*
11. *Follows through on a job assignment.*
12. *Shows self control (copes well with anger, frustration).*
13. *Able to take criticism.*
14. *Shows desire to improve skills.*

An analysis of frequencies and item means appears in Table 12, General (Non-Related) Employee Rating Scale - Item Analysis. The General Employee Rating Scale produced the following findings:

- o The resulting General Employee Rating Scale mean is 2.53, with a standard deviation of .463 and N of 47. This may be compared to the mean of the Related Employee Rating Scale computed using comparable items. The Related Employee Scale Mean (Converted) is 2.54, with a standard deviation of .462. These are virtually the same.

TABLE 11

Related Employee Rating Scale

Item Analysis

Item	Mean*	SD	Mode*	N**	Freq. Insuf. Info.	Freq. Not Appl.
1. Is familiar with auto parts	2.41	.59	2	22	0	0
2. Is familiar with necessary tools	2.41	.50	2	22	0	0
3. Is able to handle sophisticated equip.	2.10	.85	3	20	1	1
4. Knows principles of auto operations	2.36	.66	2	22	0	0
5. Has mechanical reasoning	2.32	.65	2	22	0	0
6. Has electrical reasoning	2.00	.84	1	21	0	1
7. Shows talent in job performance (metal work, painting, etc.)	2.33	.69	2	18	0	4
8. Has one area of specialization	2.29	.61	2	14	1	7
(brakes, transmission, etc.)			2	18	0	4
9. Finds necessary information in printed material	2.33	.59	2	18	0	4
10. Can apply printed matter to job (manuals, diagrams)	2.39	.50	2	18	1	3
11. Has regard for safety requirements	2.32	.65	2	22	0	0
12. Can follow oral work directions	2.46	.51	2	22	0	0
13. Is a productive worker	2.46	.51	2	22	0	0
14. Is able to write up bills, handle cash slips, etc	2.43	.65	3	14	0	7
15. Can make accurate cost estimates	2.36	.81	3	11	0	10
16. Can make accurate time estimates	2.23	.83	3	13	0	9
17. Can communicate above to customers	2.29	.69	2	17	0	5
18. Appears courteous, well mannered	2.48	.60	3	21	0	0
19. Has necessary physical qualifications (strength, endurance, vision, etc.)	2.55	.60	3	22	0	0
20. Works well with fellow employees	2.50	.60	3	22	0	0
21. Works well with immediate supervisor	2.50	.60	3	22	0	0
22. Arrives on time (punctuality)	2.55	.60	3	22	0	0
23. Comes to work regularly (attendance)	2.46	.67	3	22	0	0
24. Follows through on a job assignment	2.55	.51	3	22	0	0
25. Shows self control (copes well with anger, frustration)	2.33	.66	2	21	1	0
26. Able to take criticism	2.32	.65	2	22	0	0
27. Shows desire to improve skills	2.50	.51	2	22	0	0

* Scale Responses: 1=Inadequate; 2=Adequate; 3=More than Adequate

** The number of cases used in computing mean and standard deviation include only those responding 1-3

- The highest rated items on the General Scale again using the criterion of a mean 2.5 were: *Is familiar with necessary equipment; Shows talent in job performance; Has necessary physical qualifications; Works well with fellow employees.* Two of these, *physical requirements* and *fellow employees* were also in the highest scored group on the Related Scale.

- The remaining item means clustered between 2.3 and 2.47. Indeed, only one item fell slightly below 2.3, *Able to take criticism*, with a mean of 2.26. (See page 154.)

Hiring and Retention: Related Employment

Five questions were asked of the automotive employers with regard to hiring and retention:

- *Was the employee's automotive training in school the basis for hiring?* 52.4% of those employers responding reported that automotive training was the basis for hiring.

- *Is the employee still with your company?* 72.7% of the employees were still employed.

- *If yes, is this the same job for which the employee was originally hired?* 43.8% of these had changed jobs within the company.

- *If not, was the job move: ____ a move up; ____ a move down, ____ on the same level?* 85.7% of the changes were "a move up."

- *Tenure of employment?* 11 of the 22 subjects had been with the same company for more than a year, 8 of these for two or more years. This means employment had to have started before high school graduation.

It is impossible to speculate on the general applicability of these numbers because of the small sample (N=22) involved. However, the positive response of the employers for the Scale items, the high rate of job retention, and the seeming promotability of the graduates may be seen as indicators of a graduate's on-the-job success.

Hiring and Retention - Non-Related Employment

The same five questions were asked of the group of non-related employers, with the substitution of the word occupational for automotive throughout the questionnaire. Their responses follow:

- Only 5.4% of the employers reported that occupational training was the basis for hiring, compared to more than half the automotive employers.

- However, that did not seem to affect job retention. 73.2% of the graduates were still employed.

Table 12

General (Non-Related) Employee Rating Scale

Item Analysis

Item	Mean*	SD	Mode*	N**	Freq. Insuff. Info.	Freq. Not Applicable
1. Is familiar with necessary equipment	2.53	.50	3	53	0	4
2. Shows talent in job performance	2.51	.50	3	57	0	0
3. Finds necessary information in printed material	2.44	.50	2	39	1	15
4. Can follow oral work directions	2.46	.57	3	57	0	0
5. Is a productive worker	2.47	.60	3	57	0	0
6. Has necessary physical qualifications (strength endurance, vision, etc.)	2.63	.56	3	54	0	2
7. Works well with fellow employees	2.52	.54	3	56	0	0
8. Works well with immediate supervisor	2.46	.57	3	57	0	0
9. Arrives on time (punctuality)	2.37	.67	3	57	0	0
10. Comes to work regularly (attendance)	2.44	.57	2	57	0	0
11. Follows through on a job assignment	2.46	.57	3	56	0	1
12. Shows self control (copes well with anger, frustration)	2.33	.70	3	54	2	1
13. Able to take criticism	2.26	.71	2	53	2	2
14. Shows desire to improve skills	2.44	.60	3	54	1	2

*Scale responses: 1=Inadequate; 2=Adequate; 3=More than Adequate

**The number used in computing mean and standard deviation include only those responding.

- 87.5% of these new jobs were "a move up."
- Again more than 50% of the subjects had been employed more than a year, with some records indicating employment beginning at the start of high school.

There appears to be little difference in on-the-job performance of those in related and non-related employment. Neither are there differences in job performance as based on this survey's results between graduates of the various high schools or between graduates grouped by grade point average.

CHAPTER 4

SURVEY IV: THE TWO-YEAR FOLLOW-UP

Objectives

The major purpose of the final follow-up was to see what job and educational activities the graduates were involved in two years after graduation and to see whether there was a relationship between these activities and their high school program. In addition, the survey was intended to review the extent graduates were implementing the plans for work and school they stated in the Senior Survey and whether or not implementation was significantly related to high school program or grade point average.

The objectives as stated in the study proposal were:

- To determine the current status of the volunteer subjects in regard to their school/work plans, e.g., working full or part-time; in a field related or not related to their occupational training; attending school full or part-time, etc.
- To assess the extent to which all subjects, 24 months after graduation, continue to follow the post-secondary plans they set for themselves in the June 1977 survey.
- To determine if there is a relationship between those trained in the five programs of enrollment and post-secondary "success" as measured by subjects continuing to meet the goals expressed in the Spring '77 Senior Survey.
- To determine if there is a relationship between high school performance, as measured by GPA, and post-secondary "success" as measured by subjects continuing to meet the goals expressed in the Spring '77 Senior Survey.
- To discern the reasons for change in plans for change in plans for those students not pursuing the goals set for themselves in the senior survey.

Instrument Development

Because many of the questions to be asked of respondents depended upon knowledge of prior responses, a unique instrument was needed for the telephone survey. This instrument had to incorporate a means of precoding for questions related to continuing employment or continuing education. In addition a telephone script was needed.

Accordingly a script and draft instruments were developed. These were field tested in role playing situations. The major obstacle to be overcome was interviewer hesitancy between questions in a search which depended not only on responses to this interview, but responses to the One-Year Follow-up. The resulting instrument was precoded for One-Year responses before use. (See Appendix J: Two-Year Follow-up.)

Sample Selection

All 175 of the respondents to the One-Year Follow-up were selected as the sample.

Techniques and Responses

The survey was carried out by telephone in June 1979. In order to increase the number of respondents calls were made both during the day and evening. In addition, no limit was placed on recalls unless a respondent refused, or until time limitations for this phase were exhausted.

As a result, the response rate was 65.4%, or 118. Of these approximately 44% were from the Vocational High School Program, 34% from the Comprehensive High School Program, and 17.7% from the Academic High School Program. This is not very different from the program balance in the original Senior Survey. Of those respondents, 49% were from Vocational programs, 21% from Comprehensive programs and 16% from Academic programs.

Analysis

The analysis points to two major conclusions. First, there were no longer any significant differences in the work or education activities of the graduates by the high school program from which they had graduated nor were there differences in plan implementation by grade point average. Second, there was great consistency over the two years both in activity and plan implementation.

Work Activities:

- Of the 118 graduates responding, 91 or 77.1% were employed.
- Of these, 65.9% were employed full-time.
- 19.8% of those employed were in automotive related fields.
- 84 respondents had been working at the time of the One-Year Follow-up. Of these 91.7% were still working, and 79.2% were at the same job.

Those who were no longer at the same job repeatedly reported that their reason for changing jobs was for improvement - either better pay or better working conditions. Two reported being laid off and two were in seasonal work.

Education Activities

- Of the 118 respondents, 60 or 50.8% were continuing their education.
- Of those attending school, 58.3% were in two-year programs and 31.7% in four-year programs.
- 20.0% reported they were in auto-related courses.
- Of those who had been attending school the previous year, 82.6% remained.
- Those no longer attending included a number who had graduated. This is not surprising considering how many had reported they were in two-year programs in the One-Year Follow-up. Others said they wanted to get a job, and still others said they "didn't like it."

Plan Implementation:

- In the Senior Survey, 97 of the 118 respondents said they planned to work. 82.5% of them were indeed working.
- Of the 17.8% who had not said they planned to work, 61.9% were also working.
- In the Senior Survey, 81 of the 118 respondents said they planned to attend school. 65.4% of these were attending school.
- Of the 37 not planning to attend college, 16.2% were

Applying the standard of carrying out one's total plan at the end of two years as success, 54.2% were continuing to do as they had stated. This measure is an obvious over-simplification. Success in careers also must include the flexibility to move from jobs to school and out of school to work as needed. That graduates would no longer be counted among those carrying out education plans shows one of the difficulties in long-range measures of career path success.

The graduates gave many personal reasons for changing their plans. Two groups of these stand out. There is one large group that answered with some variation of,"I realized I needed more education to get the kind of job I needed." There is a second group that replied, "I needed the money to attend school." These two responses, which of course appeared in the respondents' own words, basically explained the preponderance or change of plans.

CHAPTER 5

RELATED VS. NON-RELATED EMPLOYMENT—DESCRIPTIVE DATA

While it was not the original purpose of this study to determine the differences between those graduates who enter related employment and those who enter other fields, some descriptive data did emerge in the course of the research.

There are several questions underlying the need for research into related vs. non-related employment. In some program evaluations, entry into related employment is considered the only positive outcome. The validity of this criterion as the sole measure is one such issue. People favoring occupational education often assert that occupational training in one area has carryover effects into all areas. This hypothesis requires testing. Little work has been done on the effects of occupational education on student aspirations and plans particularly with regard to awareness of other careers. This is a third area of questioning. The data presented in this section are offered as possible springboards to further study, not as conclusive.

All of the material presented below was gathered in the first three surveys discussed. It is reorganized for the purposes of this comparison. It should be noted that the number of graduates in related employment for whom we have employer returns (Survey III) is 22, and the number of graduates in non-related employment for whom there are employer returns is 59. All of the data are presented as percentages of those responding to the particular question. The usual cautions in interpreting small, unequal, and non-random samples are suggested.

Five subtopics will be addressed: Vocational Activity in High School Plans Upon Graduation; Graduate Evaluation of the High School Program; Activities in the first Post-Secondary Year; Employer Evaluation of the Graduates.

Vocational Activity in High School

The Graduates who entered automotive related jobs showed a greater involvement in the field while they were in high school.

High School Program :

- 72.0% of the related employees came from Vocational High Schools; 22.7% from Comprehensive High Schools.

- 40.7% of the non-related employees attended Vocational High Schools, 27.1% Comprehensive High Schools, 23.7% Academic High Schools,and 5.1% the Shared Instruction Program.

Length of Study (obviously related to high school programs)

- 81.8% of the related employees had studied automotives 3 years or more. 9.1% had studied it for four or five terms, and the remainder for less than 2 years.

- 37.3% of the non-related employees had studied automotives for three years, 5.1% had studied for 4 to 5 terms, and the remaining 57.6 for 1 to 3 terms.

Employment During High School

- 77.3% of the related employees were working at the time of the Senior Survey. Of these 58.8% were already in related jobs.

- 55.9% of the non-related employees were working when surveyed as seniors. Only 5.1% of these were in related employment.

Promise of a Job

- 31.8% of the related employees had the promise of a full-time job upon graduation; an additional 18.2% had the promise of a part-time job.

- 27.1% of the non-related employees had the promise of a full-time job; 23.7% had the promise of a part-time job.

Plans Upon Graduation

The plans of those in related and non-related employment show a difference with more of the non-related planning to continue education. This is probably reflected in the greater number of them who are in temporary or part-time employment.

Plans for Work:

- 77.3% of those who are in related employment planned to work full-time. 18.2% planned to work part-time.

- 49.2% of those who were in non-related employment planned to work full-time. An additional 35.6% planned to work part-time.

- 95.5% of those in related employment hoped to work in auto related jobs. 6.1% of those in non-related employment hoped for related work.

Plans for Education:

- Upon graduation, 41.9% of those in related employment planned to continue their education. All wanted to study automotives.
- 59.4% of the non-related planned to continue their education, 52.6% of those in a related field.

Graduate Evaluation of the High School Program

Importance of Occupational Training

As might be expected the graduate in related work found their automotive training more important than those in non-related training both in getting a job and job performance:

- 80% of the related graduates responded "Very Important," to the value of automotive training in jobseeking; only 9.3% of those in non-related employment gave this response, with the majority 77.7% responding "Not at all Important."
- 70.0% of the related graduates also found their training "Very Important" in job performance. Again the balance swings the other way for those in non-related employment with 10.5% rating training "Very Important" and 80.7% reporting it as "Not at all Important" for job performance.

Automotive Skills Needed

The desire for greater emphasis on automotive skills for job performance showed the same balance:

- 60.0% of the related graduates wanted a "greater" emphasis on automotive skills; and 40.0% wanted the "same."
- 25.0% of the non-related graduates wanted "greater" emphasis on automotive skills; 50.0% wanted the "same;" and 25.0 wanted "less."

Academic Skills Needed

A slight shift in the groups' desires in terms of desired emphasis on academic skills needed for job performance appears:

- 22.2% of the related graduates want a "greater" emphasis on academic skills; 66.7% want the "same;" and 11.1% want "less."
- Of the non-related graduates, 39.6% want "greater" Academic Skills emphasis; 50.9 want the "same;" and 9.4% want "less".

Jobkeeping Skills Needed

While the overall analysis (See Survey II) had shown no difference in desires for job seeking skills by high school program, some apparent difference between related and non-related employees emerge.

In Table 13, Jobseeking Skills - Percent Responding by Graduates in Related vs. Non-Related Employment, a greater desire for resumé writing, for example, is expressed by those in non-related employment. This may very well be a function of the nature of automotive hiring practices for entry level positions rather than an overall function of related vs. non-related paths. It may also be chance factors. Cautions in interpreting the small number are repeated. (See page 164.)

Activities in the First Post-Secondary Year

One may examine the work and educational activities of the two groups to see what other activities seem to accompany worked in a related field.

Source of Job :

- 61.5% of the related and 61.0% of the non-related groups report they got their first job since graduation through a relative or friend.

Type of Job :

- 86.4% of the related jobs were a full-time employment; the remainder were part-time employment.
- 50.8% of the non-related jobs were full-time; 49.2 were part-time.

Number of Employers :

- 54.5% of those in related employment report having had only one employer since graduation.
- In contrast, 59.6% of those in non-related employment report more than one employer.

Education :

- 96.6% of the non-related graduates reported they had graduated from high school. The remainder reported they had left, but not graduated.
- 81.8% of the related graduates had graduated. The remainder had left.

Table 13

Job Seeking Skills

Percent Responding by Graduates in Related vs. Non-Related Employment

	Frequency of Reponse					
	Related (N=22)			Non-Related (N=59)		
Skill	Less	Same	Greater	Less	Same	Greater
A. Knowing how to look for a job (employment agencies, ads, etc.)?	0.0	25.0	75.0	3.5	28.1	68.4
B. Filling out a job application?	0.0	25.0	75.0	1.8	31.6	66.7
C. Having a job interview?	5.0	20.0	75.0	3.5	21.1	75.4
D. Writing a letter or resumé to apply for a job?	27.3	63.6	9.1	1.8	29.8	68.4
E. Knowing what a boss or supervisor expects of you?	0.0	50.0	50.0	30.5	54.2	15.3

- 68.2% of the related graduates were not continuing their education; 22.7% were continuing in a related field; and 9.0% were continuing in a non-related field.

- The picture for those in a non-related job is different. 30.3% were continuing their education in a related field; 33.9% were continuing in a non-related field; and 35.7% were not continuing.

Employer Evaluation of the Graduates

As was reported earlier, both graduates in related and those in non-related occupations received favorable evaluations. As might be expected. 50.0% of the automotive employers reported occupational training in high school was the basis for hiring as opposed to 5.1% of non-automotive employers.

In Table 14, Means and Modes for Items Appearing on Related and General (Non-related) Employee Rating Scales, the descriptive data are given for 12 identical scale items. What little difference can be observed is vitaiated by the small, unequal samples.

It does seem meaningful that one item, *Finds necessary information in printed material* was eliminated from both scale mean computations because so many employers in each group, seperately rated this item as "Not Applicable", 18% of the related and 28.8% of the non-related employers did not rate respondents on this item.

The Employee Rating Scale mean for the non-related groups was as previously reported, 2.53 (SD=.463, N=47) and the recomputation of the Related Scale mean using comparable items was 2.54 (SD=.462, N=19)

Table 14

Means and Modes for Items Appearing on Related and General (Non-Related) Employee Rating Scales

Item #	Related Scale Item #	Items	Related Scale Mean*	Related Scale Mode*	Non-Related Mean*	Non-Related Mode*
** 3	(9)	Finds necessary information in printed materials	2.33	2	2.44	2
4	(12)	Can follow oral work directions	2.46	2	2.46	3
5	(13)	Is a productive worker	2.46	2	2.47	3
6	(19)	Has necessary physical qualifications (strength endurance, vision, etc.)	2.55	3	2.63	3
7	(20)	Works well with fellow employees	2.50	3	2.52	3
8	(21)	Works well with immediate supervisor	2.50	3	2.46	3
9	(22)	Arrives on time (punctuality)	2.55	3	2.37	3
10	(23)	Comes to work regularly (attendance)	2.46	3	2.44	2
11	(24)	Follows through on a job assignment	2.55	3	2.46	3
12	(25)	Shows self control (copes well with anger, frustration)	2.33	2	2.33	3
13	(26)	Able to take criticism	2.32	2	2.26	2
14	(27)	Shows desire to improve skills	2.50	2	2.44	3

* Scale Response: 1=Inadequate, 2=Adequate, 3=More than Adequate

** Omitted from Scale Mean computations because of high number of "not applicable" responses

CHAPTER 6

SUMMARY AND RECOMMENDATIONS

The major purpose of this study was to see the effects of five programs of occupational training on graduate behavior in work and education after high school. The five original programs of training - Vocational High School, Comprehensive High School, Academic High School, Shared Instruction Program (SIP and After School Occupational Skills Program (ASOSP) - were reduced to four, with the elimination of the last group because of difficulties with the subsample.

Two focal points were used in the program assessment: Graduates' reports of their work and education activities and employer evaluations of the graduates. Responses to the items on four surveys, the Senior Survey, the One-Year Follow-up, the Employer Evaluation and the Two-Year Follow-up were analyzed for differences by program. In addition, in order to have some assessment of the effect of individual differences, the same responses were analyzed by graduates' high school averages. Both graduate and employer suggestions for program improvement were sought in a variety of ways.

Findings

The over-all analysis of the graduate surveys shows that the overwhelming majority of graduates of all programs are working. 75.3% were employed one year after graduation; 77.1% were employed two-years after graduation; and 91.4% had worked at some time after graduation. The graduates also generally report they are implementing the plans they made for work and education when they were seniors. Of those continuing their education, approximately two-thirds said they were in auto-related programs.

The over-all analysis of the employer rating of graduates shows that employers rate the graduates very high on the behaviors measured in the Employee Rating Scale. This holds true both for the CAR Employee Rating Scale, which was used for all graduates in automotive related employment and the General Employee Rating Scale which was used for those in non- related employment. Job retention reflects the high ratings. In the two-year follow-up, 91.7% of those who had been working a year earlier were still working, 79.2% at the same job. This seems to reinforce the idea that skills learned in occupational training programs are transferable from one occupation to another. It should be noted that as the study progressed, the number of students and employers responding was diminished. This makes generalizations difficult.

The analysis of work activities by program showed differences among graduates grouped by program with respect to the number working, the number working in related vs. non-related jobs, and weekly salary. In general, the students from Vocational High Schools were more likely to work full-time, in an auto-related job, and earn $100-199 per week. The group next most likely to do this were those from Comprehensive High Schools. There were no differences in how the employers rated the graduates of the various programs. There was no difference in graduate work activity, by program, in the two-year follow-up.

The analysis of education activities by high school program showed that although a graduate of an Academic High School was most likely to be continuing education, a graduate of a Comprehensive High School was most likely to be continuing his education in a related field. One might suspect that the number of Comprehensive High School graduates in related work will rise as those who are continuing their education in related fields complete this education and go to work full-time.

There was no relationship found between high school average and any of the dependent variables - work activities, education activities, employer evaluation.

A profile of students in automotive related jobs may be drawn from the data. Approximately three fourths of the students in related work came from a Vocational High School, one-fourth from a Comprehensive High School. 89.9% had studied automotive for two years or more. More than 75% of these were working while they were in high school, many at auto related jobs. Almost a third, had the promise of a full-time job at the time of the Senior Survey. Fewer of those in related than non-related work were continuing their education by about two to one.

All students wanted greater emphasis on job keeping skills with difference by program. This showed up both in survey responses and the interviews conducted with seniors. The skills identified in open-ended questions of the graduates included: job hunting, resume writing, small business operation, knowing the psychology of work, having realistic expectations of the job market. They also generally wanted greater emphasis on automotives if they were in a related job, and greater emphasis on academics if they were not in a related job.

Employers stressed the need for continued in-service training of instructors so that they will be familiar with changes in the industry. It was interesting to note that many of the employers and other industry people interviewed had come out of the New York City Vocational High Schools.

Nevertheless, many expressed the feeling that vocational education was not getting its due in the public's eyes. These employers stressed the need to improve the image of Vocational High School graduates and programs.

Recommendations

- Expand opportunities to all high schools for students, who so desire, to study occupational subjects for a minimum of two preferably three years.
- Add jobseeking skills components to all occupational programs.
- Prepare curricula, materials, model lesson plans for job· skills component so that these assume importance equivalent to other skills.
- Expand opportunities for students to have work experiences, while in high school, in fields related to training where possible.
- Though such organizations as the Alliance of Business Labor and Education, and the Advisory Council on Occupational Education publicize the offerings of occupational training programs and their applicability to industry.
- Use industry personnel to offer continuing in service training to faculty.
- Increase placement sevices of high schools by adding placement counselors.
- Enhance students knowledge of the world of work and the reality of the job market through such measures as career education modules and computerized career information delivery systems.
- Conduct additional research as needed to expand and improve the criteria and techniques of occuational training program evalution.

APPENDIX A

Senior Survey and Directions

BOARD OF EDUCATION OF THE CITY OF NEW YORK
Division of Educational Planning and Support
Center for Career and Occupational Education

Project CAR--Careers in Automotives Research

Senior Survey

Directions for Administration

Dear Faculty Member:

Please allow 15 to 20 minutes for your class to complete the Survey. Read the following to the class before distributing papers.

READ ALOUD

Today, we are being asked to complete a survey to help in the planning of Automotive Training Programs for future students. After I distribute the questionnaire, please wait for further directions.

Distribute one questionnaire to each student. Then, please read:

READ ALOUD

Please notice that the questionnaire consists of two parts. We ask each of you to complete Part I. Part II asks for volunteers to participate in a future study. This study will follow-up June 1977 graduates from Automotive Training Programs, like yours. Participants will be asked to answer a mailed questionnaire, similar to this one, after graduation.

If you wish to be chosen, be sure to complete both parts, and sign Part II. Volunteers who are chosen will receive special recognition. REMEMBER: WE ASK EVERYONE TO COMPLETE PART I, AND ALL WHO VOLUNTEER TO COMPLETE AND SIGN PART II.

Do you have any questions? (pause)

Begin work.

When all have finished, collect the questionnaire. Please be sure that the pages remain stapled together. If they have separated, please clip them. **FOR EACH STUDENT, PART I AND PART II SHOULD REMAIN TOGETHER.**

BOARD OF EDUCATION OF THE CITY OF NEW YORK
Division of Educational Planning and Support
Center for Career and Occupational Education

Project CAR--Careers in Automotives Research

SENIOR SURVEY--PART I

DEAR SENIOR:

The purpose of this survey is to help us understand the paths chosen by graduates of Automotive Training Programs. Please check one answer for each of the following:

1. After graduation,

___ I plan to go directly to a 4 year college.

___ I plan to go directly to a 2 year college.

___ I plan to go directly to some other trade or technical school.

___ I plan to go for further education some time in the future.

___ I have no plans, now, for further education.

2. If you plan to continue your education, will it be in a field related to your Automotive Training? ___ yes ___ no

3. After graduation,

___ I plan to work full-time.

___ I plan to work part-time.

___ I will probably not be working because I will be in school, the military, etc.

4. If you plan to work, are you interested in finding a job related to your Automotive Training? ___ yes ___ no

5. Are you now employed? ___ yes ___ no

6. If yes, is this job related to your Automotive Training? ___ yes ___ no

7. For how long have you studied Automotive subjects in high school, including this term?

___ 1 term or less, ___ 1 year, ___ 3 terms, ___ 4 to 5 terms,

___ 3 years or more.

8. In which high school are you now officially enrolled?

____
(Fill in Name of High School)

9. In which of the following programs are you now taking Automotive courses?

___ I study Automotives in my own high school.

___ I study Automotives in the Shared Instruction Program at

____
(Fill in Name of High School)

___ I study Automotives in the After School Occupational Skills Program at

____
(Fill in Name of High School)

___ I study Automotives in some other program

____
(Fill in Name of School and briefly describe the program)

BOARD OF EDUCATION OF THE CITY OF NEW YORK
Division of Educational Planning and Support
Center for Career and Occupational Education

Project CAR--Careers in Automotives Research

SENIOR SURVEY--PART II

In September 1977, we hope to follow-up a sample of graduates to help us improve our programs for new students in Automotive Programs.

The follow-up study will ask employers of graduates, like you, to tell us which skills we are teaching effectively and where our programs need improvement. All information on individuals will remain confidential. We are only interested in the results of programs.

1) Are you willing to participate in this study? ___ yes ___ no

2) If yes, please complete the following so that we can contact you after graduation:

LAST NAME ________ FIRST NAME ________ DATE OF BIRTH ________

HOME ADDRESS ________ BOROUGH ________ ZIP CODE ________

HOME TELEPHONE NUMBER ________

3) Do you have the promise of a job after graduation? ___ yes ___ no

___ Part-time ___ Full-time

4. If yes, please fill in the name and address of the employer for whom you expect to work.

NAME OF EMPLOYER (COMPANY) ________ NAME OF SUPERVISOR (IF KNOWN) ________

ADDRESS OF EMPLOYER ________ BOROUGH ________

5. I would like to volunteer to participate in the study described above.

SIGNATURE OF STUDENT (DO NOT PRINT) ________

DEAR SENIOR:

IF YOU WANT TO BE CHOSEN FOR THIS STUDY, BE SURE YOU HAVE SIGNED YOUR NAME ABOVE. THANK YOU FOR HELPING US AND THE FUTURE STUDENTS IN THIS PROGRAM.

Appendix B
One Year Follow-up & Cover Letters

System-Wide Tests of Occupational Programs
Center for Career and Occupational Education
Board of Education of the City of New York
131 Livingston Street - Room 512
Brooklyn, New York 11201

June 5, 1978

Dear

STOP! Remember - a year ago - school was almost over, you filled out a questionnaire in an auto shop class telling us your plans for the future. We hope you've had a good year.

Now we need your help, as we said we would, to see how well particular programs prepare students for work or college.

The information you share with us will be confidential and used only to evaluate and improve programs. Your answers will be combined with the answers of other former students in summary form.

You are our most important source of information. The time you spend completing this questionnaire will be of great help to future students. Please give us the benefit of your experience by completing the enclosed questionnaire and returning it in the envelope provided.

Thank you for volunteering for this Project. You will be hearing from us again. Have a happy summer!

Yours truly,

Deborah E. Perlmutter

Deborah E. Perlmutter, Coordinator
Project STOP

Approved

George R. Quarles

George R. Quarles
Chief Administrator

DEP:bj
Enclosure

P.S. Any questions? Call Mrs. Perlmutter at 858-6940.

System-Wide Tests of Occupational Programs
Center for Career and Occupational Education
Board of Education of the City of New York
131 Livingston Street - Room 512
Brooklyn, NY 11201 Telephone# 858-6940

June 15, 1978

Dear Former Student:

STOP - Please don't throw this away!

Early in June, you were sent a questionnaire concerning your automotive occupational training program and job experiences. We need your questionnaire to complete the study.

Enclosed is a second copy of the questionnaire. Please fill it out and return it to us in the pre-addressed envelope.

The information which is being gathered is strictly confidential.

Please help us improve programs for future students - perhaps for younger people you know.

MAKE YOUR OPINION COUNT. LET US COUNT IT!

Yours truly,

Deborah E. Perlmutter

Deborah E. Perlmutter, Coordinator
Project STOP

DEP:bj
Enclosure

Board of Education of the City of New York
Center for Career and Occupational Education
Project STOP
Automotive Students One Year Follow-up

There are three sections to this questionnaire. Section A: Your Work Experience since the last survey, June, 1977; B: Your Education Experience since June 1977; C: Your evaluation of your former High School program.

Please complete each section by checking the appropriate answers and filling in the blanks.

Section A. Work Experience

1. Was your first job since June 1977 - a year ago - located through

____ High school placement office or counselor?

____ A high school teacher?

____ State employment service?

____ Private employment agency

____ Newspaper advertisement?

____ Relative or friend?

____ Other ______________________.
Please explain

____ Have not worked since June 1977.

2. Was your first job since June 1977 - a year ago -

____ Related to automotive training?

____ Not related to automotive training?

____ Have not worked since June 1977.

3. How many employers have you worked for since June 1977?

____ none, ____ 1, ____ 2 - 4, ____ 5 or more.

4. What are you doing now?

____ Working full-time in a "permanent" job.

____ Working full-time in a temporary or summer job.

____ Working part-time ______________________.
Fill in no. hours per week

____ Not working, looking for a "permanent" job.

____ Not working, looking for a temporary or summer job.

____ Not working, looking for a part-time job.

____ Not working, not looking for a job (student, military, "hanging out," etc.).

____

IF YOU ARE NOT WORKING, SKIP TO SECTION B, QUESTION 7

4. *If you are working, is your present job*

____ *Related to automotive training?*

____ *Not related to automotive training?*

5. *If you are working, please check your approximate weekly salary.*

____ *$ 0 - 99 per week.*

____ *100 - 199 per week.*

____ *200 or more per week.*

6. *For your present job, please fill in your job title, the name and address of your* *__current__* *employer, and the name of your immediate supervisor.*

Your job title: ____________________________________

Company name: ____________________________________

Company address: ____________________________________

Borough or City, State, Zip: ____________________________

Name of immediate supervisor: ____________________________

__Section B__: __Education Experience__

7. Did you graduate from high school?

____ yes: Year of graduation________

____ no, still attending high school: Grade now in ______

____ no, no longer attending high school: Highest grade completed _____

8. Are you continuing your education __this__ school year, September 1977 - June 1978?

____ Yes, in a program related to automotive training.

____ Yes, in a program not related to automotive training.

____ No

____

IF YOU ARE NOT CONTINUING YOUR EDUCATION SKIP TO SECTION C QUESTION 11.

9. *If you are continuing your education, which kind of program have you been enrolled in this school year?*

____ *4 year college or university.*

____ *2 year college or university.*

____ *Private occupational school.*

____ *Apprenticeship training program.*

____ *Adult occupational classes.*

____ *On-the-job training*

____ *Other* ______________________________.
Please explain

Section C Evaluation of Your High School Program

10. If you have worked this year, how important was your automotive training in obtaining your first job since June 1977?

____ important.

____ relevant, but not very important.

____ not at all important.

____ have not worked since June 1977.

11. If you have worked this year, how important was your automotive training in performing on your first job since June 1977?

____ important.

____ relevant, but not very important.

____ not at all important.

____ have not worked since June 1977.

12. For the purpose of your on-the-job performance should the emphasis on the following high school courses have been?

Automotive Skills Courses	Academic Courses (English, math, etc.)
____ greater	____ greater
____ same	____ same
____ less	____ less

____ Have not worked

____

13. For the purpose of your achievement in college or in technical school, should the emphasis on the following high school courses have been?

Automotive Skills Courses	Academic Courses (English, math, etc.)
____ greater	____ greater
____ same	____ same
____ less	____ less

____ have not continued my education

14. For purposes of obtaining a job should the emphasis in high school, on each of the following have been? (Check greater, same or less for each item below A - E.)

A. Knowing how to look for a job (employment agencies, ads, etc.)?

____ greater   ____ same   ____ less

B. Filling out a job application?

____ greater   ____ same   ____ less

C. Having a job interview?

____ greater   ____ same   ____ less

D. Writing a letter or resumé to apply for a job?

____ greater   ____ same   ____ less

E. Knowing what a boss or supervisor expects of you?

____ greater   ____ same   ____ less

15. If you have suggestions for skills that should be taught to improve student preparation for the world of work, please use the bottom and back of this page.

Thank you for completing this questionnaire. Please insert it in the enclosed envelope and mail it as soon as possible.

APPENDIX C

One-Year Follow-up Telephone Format

"CAR" One Year Follow-up (858-6940) ID# ______ - 4 - T ______

Student Name ____________ Automotive Program ____________

Phone Number ____________ Address ____________

Indicate date of Response

Comp. ____________ DPNI ____ ________

By ____________ NA ____________

Term ____________ CB ____________

NIS ____________ REF ____________

Student no longer at home: Date moved ____________

New Address ____________ New Phone ____________

Mail ? #	Tele. ? #	Response Code
1	1	__
2	3	__
3	8	__
4A	9	__ ____
4B	10	__
5	11	__
6	12	__ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __
7	15	__ ____
8	16	__
9	17	__
10	4	__
11	5	__
12	6	__
	7	__

Mail ? #	Tele. ? #	Response Code
13	18	__
14A	2A	__
14B	2B	__
14C	2C	__
14D	2D	__
14E	2E	__
14F	2F	__

NYC Board of Education
DEP & S CCOE
Project CAR
D. Perlmutter, Coordinator

ID# ______________________

Hello, my name is ______________________ . May I speak to/is this ______________.

I'm conducting a survey for the New York City Board of Education to evaluate certain high school programs. When you were a senior in an automotive program in ______________
School
______________, in June 1977, you volunteered to help us out - and, here we are.

I'd like to ask you a few questions about what you have done since June, 1977; about the first job you held after graduation; about any further education; and, in general, about the effectiveness of the automotive program you were in.

The first few questions have to do with your experiences since graduation, the last few are your evaluation of the program you were in.

1. How did you find your first job after June, 1977? Probe.

High School placement office or counselor ______________ 1
A High School teacher ______________ 2
State employment service ______________ 3
Private employment agency ______________ 4
Newspaper advertisement ______________ 5
Relative or friend ______________ 6
Other ______________ 7
*Haven't worked since June, 1977 ______________ 8
DK/NA/Ref ______________ X

2. Tell me if the following situations invloved with job hunting should have been emphasized greater the same or less in High School ...

	Greater	Same	Less	DK/NA/Ref
A. Knowing how to look for a job	____G	____S	____L	______X
B. Filling out job applications	____G	____S	____L	______X
C. Job interviews	____G	____S	____L	______X
D. Resumes letter writing	____G	____S	____L	______X
E. Expectations of a boss	____G	____S	____L	______X

ID# ____________________

If person didn't work, go on to number 9 Part 2

3. Was your first job related to automotive training?

yes	______	1
no	______	2
DK/NA/Ref	______	X

4. How important was your automotive training in obtaining your first job since June, 1977?

important	______	1
relevant	______	2
not at all important	______	0
DK/NA/Ref	______	X

5. How important was your automotive training in performing on your first job since June, 1977?

important	______	1
relevant	______	2
not at all important	______	0
DK/NA/Ref	______	X

6. For the purpose of your on-the-job performance, should the emphasis on the courses given in automotive skills have been ...

greater	______	G
same	______	S
less	______	L
DK/NA/Ref	______	X

7. For the purpose of your on-the-job performance, should the emphasis on the courses given in academic studies have been ...

greater	______	G
same	______	S
less	______	L
DK/NA/Ref	______	X

ID# ____________________

8. How many employers have you worked for since June, 1977?

one ______ 1

two to four ______ 3

five or more ______ 5

DK/NA/Ref ______ X

9. Are you working now? *Probe*

Part 1

working full time in a permanent job ______ 1

working full time in a temporary or summer job ______ 2

working part time, number of hours _____ ______ 3

Part 2

not working, looking for a permanent job ______ 4

not working, looking for a temporary or summer job ______ 5

not working, looking for a part time job ______ 6

not working, not looking for a job (student, military, etc.) ______ 7

**If not working now go on to question 15.*

10. Is your present job related to automotive training?

yes ______ 1

no ______ 0

DK/NA/Ref ______ X

11. What is your approximate weekly salary?

$ 0 – 99 per week ______ 1

100 - 199 per week. ______ 2

200 or more per week ______ 3

DK/NA/Ref ______ X

12. What is your present job?

____

13. Please tell me the company name and address.

____

____

____

ID# ____________________

14. Please tell me the name of your immediate supervisor.

____

15. Did you graduate from High School? *Probe*

yes, year of graduation ______ ______ 1

no, still attending - grade now in ______ ______ 5

no, no longer attending, highest completed grade ______ ______ 0

DK/NA/Ref ______ X

16. Did you continue your education last school year, September 1977 through June 1978?

yes ______ 1

no* ______ 0

DK/NA/Ref ______ X

**If no go on to question #24*

17. Which of the following kinds of programs were you enrolled in last year?

4 year college or university ______ 1

2 year college or university ______ 2

Private occupational school ______ 3

Apprenticeship training program ______ 4

Adult occupational classes ______ 5

On the job training ______ 6

Other ______ 7

DK/NA/Ref ______ X

18. For the purpose of your achievement in college or technical school, should the emphasis on the automotive courses given in high school have been ...

greater ______ G

same ______ S

less ______ L

DK/NA/Ref ______ X

ID# ____________________

19. For the purpose of your achievement in college or technical school, should the emphasis on the academic courses given in high school have been . . .

greater ______ G
same ______ S
less ______ L
DK/NA/Ref ______ X

20. Do you have any suggestions for skills that should be taught to improve students preparation for the world of work?

Thank you very much for your help and cooperation in this study. We appreciate it. You may hear from us again.

APPENDIX D

EMPLOYEE RATING SCALE

Items Suggested by EmployerS Interviewed

Items Suggested	Transmission Franchise	Owner Operated Service Repair Station	Dealership Service Department	Owner Operated Auto Leasing	Auto Parts Rental	Total
1. Speed with which he works	*		*			2
2. Dianosis	*	*	*	*		4
3. Interpersonal Relationships with Customers	*		*		*	3
4. Know all parts	*		*	*	*	4
5. Artisan rather than mechanic (transmission)	*					1
6. On the job training (if he shows talent)	*			*		2
7. Personal vocabulary	*					1
8. Sharp, alert	*					1
9. Reading skills (manuals etc.)	*	*	*	*	*	5
10. Math skills	*		*	*		3
11. Personality (to become service worker)	*			*		2
12. Incentive to learn	*			*		2
13. Chan, neat (appearence and work clean)	*	*	*	*	*	5
14. Good manners		*			*	2
15. Speed only after experience (willing to wait if kid shows willingness to learn)		*		*		2
16. Knows how to tear a motor apart -- put back together	*	*		*		3
17. Happy on job				*		1
18. Natural aptitude				*		1
19. Knowledge of sophisticated equipment	*		*	*		3
20. Physical characteristics, nimbleness, lifting of heavy equipment, and climbing			*	*	*	3
21. Emotional maturity		*	*			2
22. Mechanical reasoning		*	*	*		3
23. Artistic talent for auto body and paint			*			1
24. Knowledge of tools	*	*	*	*		4
25. Need for post secondary education crafts school etc.	*		*	*		3
26. Knowledge of metric system, fractions, decimals			*	*		2
27. Knowledge of credit cards		*				1
28. Write up of cash slips		*		*		2
29. Knowledge to make change		*			*	2
30. Can read meter		*				1
31. Can do cost estimates (for upward mobility)	*		*			2
32. Can figure time estimates (f	*		*			2
33. Can work as part of team		*	*	*		3
34. Electrical reasoning			*	*		2
35. A good mechanic can do anything				*		1
36 Incentive award (increase in pay)		*				1
37. Experienced (if possible)		*				1
38. Drivers license	* *	*	*	*		4

Appendix E
Draft of Employee Rating Scale - Field Test

NYC Board of Education
CCOE
Project CAR

Name of Company______________________________ Date__________________

Address____________________________________ Telephone No.____________

Person Interviewed____________________________ Position_______________

1. Please read the following survey as if you were answering the items and questions. As you read please think aloud. I am interested in any questions or comments that cross your mind.

2. Which of the directions gave you any difficulty?

3. Please look especially at Question D. We are not sure this is clear. What does it ask you to do?

4. Please comment on the lay-out and design of the survey.

5. Should any items or question be added?

6. Should any items or questions be deleted?

7. Should any items or questions be reworded?

CCOE
Project CAR

________________________________who was graduated from High School in June, 1977, is/was employed by your company______________________________. Please fill in his/her job title______________________________. Then rate his/her performance, as compared to other beginning workers, using the rating scale below:

1. Below average.
2. Average.
3. Above average.
4. Insufficient information to rate worker at this time.
5. This item not necessary for job.

Office Use Only			Check appropriate box for each item					
	A.	MECHANICAL SKILLS & KNOWLEDGE						
42 ☐	1.	Familiar with auto parts.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	(15)
☐	2.	Familiar with necessary tools	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	
☐	3.	Able to handle sophisticated equipment.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	
☐	4.	Knows principles of automobile operations. . .	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	
☐	5.	Has mechanical reasoning	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	
☐	6.	Has electrical reasoning	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	
☐	7.	Talented in metal work, painting, etc.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	
☐	8.	Has one area of specialization (brakes, transmission, etc.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	
☐	9.	Finds information in catalogues, manuals, etc.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	
☐	10.	Can apply printed matter to job; (manuals, diagrams).	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	
☐	11.	Has regard for safety requirements	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	
☐	12.	Can follow oral work directions.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	
54 ☐	13.	Is a productive worker	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	(27)
	B.	WORKING WITH CUSTOMERS						
55 ☐	14.	Able to write up bills, handle cash slips, etc.	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	(28)
☐	15.	Can make accurate cost estimates	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	
☐	16.	Can make accurate time estimates	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	
☐	17.	Can communicate above to customers	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	
59 ☐	18.	Appears courteous, well-mannered	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	(32)

Check appropriate box for each item.

Office Use Only								
	C.	**PERSONAL CHARACTERISTICS**						
60☐	19.	Has necessary physical qualifications (strength, endurance)	1☐	2☐	3☐	4☐	5☐	(33)
☐	20.	Works well with fellow employees.	1☐	2☐	3☐	4☐	5☐	
☐	21.	Works well with immediate supervisor . . .	1☐	2☐	3☐	4☐	5☐	
☐	22.	Arrives on time	1☐	2☐	3☐	4☐	5☐	
☐	23.	Comes to work regularly	1☐	2☐	3☐	4☐	5☐	
☐	24.	Follows through on a job assignment	1☐	2☐	3☐	4☐	5☐	
☐	25.	Shows self control (copes well with anger, frustration)	1☐	2☐	3☐	4☐	5☐	
☐	26.	Able to take criticism	1☐	2☐	3☐	4☐	5☐	
67☐	27.	Shows desire to improve skills	1☐	2☐	3☐	4☐	5☐	(41)

D. Please review each of the items above. If you do not expect the schools to supply this training, or if you feel this is a skill better acquired in on the job training, circle the number to the left of the item.

E. Is he/she still an employee of your company? 1☐ Yes 2☐ No (69)

If not, how long was he/she an employee?

____

Reason for termination of employment. ______________________________

____

F. Can you suggest methods, programs, learning experiences, ets. that might be employed by the high schools in improving student preparation for work in the automotive industry. ______________________________

____

____

— — — —

Appendix F
Employer Evaluation - Related Employment

Board of Education of the City of New York
Center for Career and Occupational Education
Employer Evaluation - Project CAR

Company Name ____________________. ____________________ who was in a New York City High School automotive occupational training program in 1976-77 is, or was, employed by your company. Please fill in his/her job title ____________________. Then rate his/her performance, as compared to other beginning workers, using the rating scale below.

Inadequate
Adequate
More than adequate
Insufficient information to rate worker at this time
Not applicable to job

	Check appropriate box for each item				
	Inadequate	Adequate	More than Adeq.	Insufficient Info.	Not Applicable
1. Is familiar with auto parts..................	☐	☐	☐	☐	☐
2. Is familiar with necessary tools............	☐	☐	☐	☐	☐
3. Is able to handle sophisticated equipment....	☐	☐	☐	☐	☐
4. Knows principles of automobile operations....	☐	☐	☐	☐	☐
5. Has mechanical reasoning....................	☐	☐	☐	☐	☐
6. Has electricial reasoning....................	☐	☐	☐	☐	☐
7. Shows talent in job performance (metal work, painting etc.)............................	☐	☐	☐	☐	☐
8. Has one area of specialization (brakes, transmission, etc.)........................	☐	☐	☐	☐	☐
9. Finds necessary information in printed material....................................	☐	☐	☐	☐	☐
10. Can apply printed matter to job (manuals, diagrams)..................................	☐	☐	☐	☐	☐
11. Has regard for safety requirements...........	☐	☐	☐	☐	☐
12. Can follow oral work directions..............	☐	☐	☐	☐	☐
13. Is a productive worker........................	☐	☐	☐	☐	☐
14. Is able to write up bills, handle cash slips, etc.............................	☐	☐	☐	☐	☐

15.	Can make accurate cost estimates............	☐	☐	☐	☐	☐
16.	Can make accurate time estimates............	☐	☐	☐	☐	☐
17.	Can communicate above to customers..........	☐	☐	☐	☐	☐
18.	Appears courteous, well mannered............	☐	☐	☐	☐	☐
19.	Has necessary physical qualifications (strength, endurance, vision, etc.)..........	☐	☐	☐	☐	☐
20.	Works well with fellow employees............	☐	☐	☐	☐	☐
21.	Works well with immediate supervisor.........	☐	☐	☐	☐	☐
22.	Arrives on time (punctuality)...............	☐	☐	☐	☐	☐
23.	Comes to work reguarly (attendance)..........	☐	☐	☐	☐	☐
24.	Follows through on a job assignment..........	☐	☐	☐	☐	☐
25.	Shows self control (copes well with anger, frustration)................................	☐	☐	☐	☐	☐
26.	Able to take criticism......................	☐	☐	☐	☐	☐
27.	Shows desire to improve skills..............	☐	☐	☐	☐	☐

A) Was the employee's automotive training in school the basis for hiring? ___ yes ___ no

B) Is the above named job, the same job for which the employee was originally hired? ___ yes ___ no

C) If not, was the job move: ___ a move up ___ a move down ___ on the same level?

D) Is this employee still with your company? ___ yes ___ no

E) If yes, for approximately how long has he/she been employed? ____________________

F) If not, for approximately how long was he/she employed? ____________________

G) Reason for termination of employment ____________________

H) Can you suggest methods, programs, or learning experiences that might be employed by the high schools to improve student preparation for the world of work in the automotive industry.

____

____

____
Signature of Person Completing Report

____
Title

APPENDIX G

Employer Evaluation - Non-Related Employment

Board of Education of the City of New York
Center for Career and Occupational Education
Employer Evaluation - Project CAR

Company Name ______________________________. ______________________________ who was in a New York City occupational training program in 1976-77 is or was, employed by your company. Please fill in his/her job title ______________________________. Then rate his/her performance, as compared to other beginning workers, using the rating scale below.

Inadequate
Adequate
More than adequate
Insufficient information to rate worker at this time
Not applicable to job

	Check appropriate box for each item				
	Inadequate	Adequate	More than Adeq.	Insufficient Info.	Not Applicable
1. Is familiar with necessary equipment	☐	☐	☐	☐	☐
2. Shows talent in job performance	☐	☐	☐	☐	☐
3. Finds necessary information in printed material	☐	☐	☐	☐	☐
4. Can follow oral work directions	☐	☐	☐	☐	☐
5. Is a productive worker	☐	☐	☐	☐	☐
6. Has necessary physical qualifications (strength, endurance, vision, etc.)	☐	☐	☐	☐	☐
7. Works well with fellow employees	☐	☐	☐	☐	☐
8. Works well with immediate supervisor	☐	☐	☐	☐	☐
9. Arrives on time (punctuality)	☐	☐	☐	☐	☐
10. Comes to work regularly (attendance)	☐	☐	☐	☐	☐
11. Follows through on a job assignment	☐	☐	☐	☐	☐
12. Shows self control (copes well with anger, frustration)	☐	☐	☐	☐	☐
13. Able to take criticism	☐	☐	☐	☐	☐
14. Shows desire to improve skills	☐	☐	☐	☐	☐

Employer Evaluation P. 2

____

A. Was the employee's occupational training in school the basis for hiring?
____ yes, ____ no

B. Is the above named job, the same job for which the employee was originally hired?
____ yes, ____ no

C. If not, was the job move: ____ a move up, ____ a move down, ____ on the same level?

D. Is this employee still with your company?
____ yes, ____ no

E. If yes, for approximately how long has he/she been employed? ____________

F. If not, for approximatley how long was he/she employed? ____________

G. Reason for termination of employment ____________

____

H. Can you suggest methods, or learning experiences, that might be employed by occupational programs to improve student preparation for the world of work.

____

____

____
Signature of Person Completing Report

____
Title

Appendix H
Employer Evaluation Cover Letters

BOARD OF EDUCATION OF THE CITY OF NEW YORK
DIVISION OF EDUCATIONAL PLANNING AND SUPPORT
CENTER FOR CAREER AND OCCUPATIONAL EDUCATION
110 LIVINGSTON STREET, BROOKLYN, NEW YORK 11201
522-5122

GEORGE R. QUARLES
CHIEF ADMINISTRATOR

December 1, 1978

Dear Employer:

The New York City Board of Education is conducting an evaluation of selected occupational programs. As the employer of one of our former students, you are in a unique position to provide valuable input into our study.

The information you share with us will be confidential and will be used only to evaluate and improve programs. Indeed, all identification by individuals will be "lost" as soon as the ratings are grouped by occupational training program.

Please give us the benefit of your knowledge by completing the enclosed questionnaire and returning it in the envelope provided to:

Deborah E. Perlmutter, Coordinator
System-wide Tests of Occupational Programs
Center for Career and Occupational Education
131 Livingston Street - Room 512
Brooklyn, New York 11201

Yours truly,

Deborah E. Perlmutter

Deborah E. Perlmutter, Coordinator
System-wide Tests of Occupational Programs

DEP:bg
Enclosure

APPROVED:

George R. Quarles

George R. Quarles
Chief Administrator

System-Wide Tests of Occupational Programs
Center for Career and Occupational Education
Board of Education of the City of New York
131 Livingston Street - Room 512
Brooklyn, NY 11201

January 22, 1979

Dear Employer:

STOP - Please don't throw this away!

At the end of December, you were sent a questionnaire concerning an employee of yours who is a former student of ours. We need your questionnaire to complete the study.

Enclosed is a second copy of the questionnaire. Please fill it out and return it to us in the pre-addressed envelope.

The information which is being gathered is strictly confidential.

Please help us improve programs for future students - perhaps for younger people you know.

MAKE YOUR OPINION COUNT. LET US COUNT IT!

Yours truly,

Deborah E. Perlmutter

Deborah E. Perlmutter, Coordinator
Project STOP

DEP:bj
Enclosure

Appendix I
Employer Evaluation Telephone Script
Board of Education of the City of New York
Center for Career and Occupational Education
Employer Evaluation - Project CAR

Script For Car Employer Follow-up Telephone Survey

Hello, my name is ______________________ (interviewers name). May I please speak to / is this ______________________ (Supervisor of Personnel). I am conducting a survey for the New York City Board of Education to evaluate certain high school programs.

We are comparing program results from different schools by comparing how their graduates do on the job.

______________________ (students name) who graduated from an automotive program in high school has given us your name.

The information you share with us will be confidential and will be used only to evaluate and improve programs. All identification by individuals will be lost.

Read questions aloud

1. What is ______________ (students name) job title?
2. read the questions on the blue form...........
3. For the first few questions read the choices of inadequate, adequate. more than adequate, insufficient information, not applicable. until they get the hang of it.

Appendix J
Two Year Telephone Follow-up

Name ________________________ Telephone ______________ ID ______________

1. Last time you answered our survey, I believe you were working. Are you still working?

___ yes ___no (IF YES, SKIP TO 1B)

1A Why did you stop? (PROBE)

____

________________________ (Go To 2)

1B Are you at the same job?

___yes ___no (IF YES, SKIP TO 1D)

1C Why did you change jobs? (PROBE)

____

____

1D Is this job ___full time ___part time?

1E Is this job related to automotives?

___yes ___no

1. Are you now working? ___yes ___no
(IF NO, SKIP TO 2)

1D Is this job ___full time ___ part time?

1E Is this job related to automotives?

___yes ___no

* * *

2. Last time you answered our survey, I believe you were going to school. Did you go to school this past year, '78-'79?

___yes ___no(IF YES, SKIP TO 2B)

2A Why did you stop?

____

________________________ (Go To 3)

2B Are you attending: ___ 4 yr. college;

___2 yr college; some other kind of school?

(FILL IN) ________________________

2C Is the program you are in related to

automotives ? ___yes ___no

2. Did you go to school this past year, '78-'79?

___yes ___no (IF NO, SKIP TO 3)

2B Are you attending ___4 yr college;

___2 yr college; some other kind of school?

(FILL IN) ________________________

2C Is the program you are in related to automotives?

___yes ___no

* * *

3. ASK ONLY IF PRESENT ACTIVITIES ARE DIFFERENT FROM SENIOR PLANS.
In this last question, we are trying to find out something about how people change in the first couple of years after high school. When you were a senior, you indicated on our survey that you planned

___to work ___not to work ___to go to school ___ not to go to school

Now it turns out that you are

working not working going to school not going to school

Can you tell me some of the thinking or events that went into your change of plans?
(PROBES: MONEY, LEARNED ABOUT ANOTHER FIELD, PARENTS, FRIENDS, DIDN'T LIKE, ETC.)

____

PART III

EMPLOYER MEASURES OF INDUSTRY SATISFACTION:

THE DEVELOPMENT AND USE OF AN EMPLOYEE RATING SCALE

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INTRODUCTION

One of the questions frequently addressed to occupational education delivery systems is what happens to graduates of these programs in the world of work. The primary means of answering this question has been the follow-up study. (Berry, 1975; Donaldson et al, 1971; Gill et al, 1976; Harris et al,1972; McCraken, 1972; Purdue University 1975.) Basically, the graduate is asked where he is employed, what he is doing, and whether this is related to his training. This method, however, fails to assess how well the graduate is doing on the job. The interest in the answer to this question, as part of a demand for methods of program accountability and evaluation, led to the study described in this report.

Under VEA grants 78-3A-729, 79-3A-901, and CO 79-3A-1024, two phases of research were funded. The purpose of the first phase was to develop, test, and modify as needed, an Employee Rating Scale. Because the Scale was to be used to rate people from a wide range of programs and because of current interest in the importance of job retention as a function of worker attitude, the Scale concentrates on job keeping skills rather than competencies required in specific industries. The purpose of the second phase was to utilize the Scale in an analysis of the performance of subgroups of occupational completers, thereby assessing the effectiveness of such variables as program, school, type of high school, length of study, or others deemed appropriate. In both phases of the study, the participants were former New York City occupational students and their employers.

Each year it is estimated that 30,000 students finish the 11th grade of the New York City High Schools with a salable skill. The preparation for these skills ranges from one year of training in one period a day to three years of training in three periods a day. In addition, approximately 60,000 adults receive occupational training in programs such as Manpower Training Program and the Pre-Employment Program. A sample from both these groups was sent a follow-up questionnaire in the Fall following their scheduled graduation from high school or their program, the Secondary/Adult Occupational Education follow-up of Program Completers and Leavers (See Appendix A: Occupational Education Data Survey 2). Respondents supplied employers' names and these employers became the subjects of this research. Fall 1977 OEDS 2 respondents participated in the developmental phase. The group of New York City High School graduates responding to the Fall 1978 OEDS 2 yielded the names of employers used in the program analysis of the second phase.

Chapter 1 of this section details the development and testing of the Employee Rating Scale. In Chapter 2 the results of a program assessment utilizing the Scale are reported. This assessment looked at a sample of New York City High School Graduates, class of 1978, who had had occupational training. It assessed the effect on the Scale of having received training in a Vocational High School versus an Academic High School. In addition, the performance of those groups still employed versus those not still employed were examined, as well as the performance of those for whom employers reported training was the bases of hiring versus those for whom the employer reported training was not the basis for hiring.

CHAPTER 1

DEVELOPING THE EMPLOYEE RATING SCALE

Purpose

An instrument was needed to assess the effectiveness of programs and institutions in preparing people for the world of work. Since employers are, in a sense, the "ultimate consumers" of occupational training programs, they may serve as judges of program effectiveness through their assessments of individual employees who are, in this same sense, products of the occupational training programs. Therefore, the major purpose of the scale was to provide employer ratings of individual graduates, ratings that would be grouped to assess program and/or school effectiveness in preparing people for work.

It was also hoped that the Employee Rating Scale could be used as a self-rating device. A basic premise necessary to this dual use was that employers and graduates would respond to the scale with similar underlying constructs. If this could be demonstrated, then self-ratings could be used to assess students' readiness for work while they were in such preparation programs as Cooperative Education or the Youth Employment Training Program.

Methodology

The Items

Since this scale was to be used to rate people in a wide variety of entry-level occupations - from clerks to aviation mechanics - the items had to be of a general nature. This eliminated the kind of skills'breakdowns that generally go into competency measures for specific jobs. Accordingly, about two dozen employers representing the kinds of businesses that generally hire high school graduates were interviewed about the general world of work or job keeping skills they saw as desirable.

The interview results were culled for general or generalizable skills, and a scale of fourteen items resulted. They are:

1. *Is familiar with necessary equipment*
2. *Shows talent in job performance*
3. *Finds necessary information in printed material*
4. *Can follow oral work directions*
5. *Is a productive worker*

6. *Has necessary physical qualifications (strength, endurance, vision, etc.)*
7. *Works well with fellow employees*
8. *Works well with immediate supervisor*
9. *Arrives on time (punctuality)*
10. *Comes to work regularly (attendance)*
11. *Follows through on a job assignment*
12. *Shows self control (copes with anger, frustration)*
13. *Is able to take criticism*
14. *Shows desire to improve skills*

The Subjects

Each year it is estimated about 30,000 students complete 11th grade in New York City with a salable skill. The preparation for these skills ranges from one year of training, one period a day, to three years of training, three periods a day. A sample of the 30,000 students is sent a follow-up questionnaire in the Fall OEDS 2 following their expected date of graduation. An additional sample selected from the approximately 60,000 adults who receive occupational training in such programs as Pre-Employment Training and Manpower Training Programs are also surveyed. (See Appendix A: Occupational Education Data Survey (OEDS 2).)

For the purposes of this paper, we will call all these High School and Adult Occupational Completers "GRADS." All of the 1977 questionnaires in which a GRAD supplied an employer's name, "EMPLOYER," were used for testing of the Employee Rating Scale.

There were 324 GRADS. Of these, according to the OEDS 2 responses, 162 had graduated from New York City High Schools, 27 had attended high school in 1976 but had not graduated, 33 had been Cooperative Education students, and 102 had received their training in Adult Preparation programs. In the sample 138 were male and 186 female. Table 1, Respondents to the OEDS 2 Supplying Employer's Names, following breaks down the GRADs by the groupings above within area of occupational training as reported on the OEDS 2. (See page 205.)

In April, the Scale was mailed to the 324 employers. (See Appendix B: Employer Questionnaire and Cover Letter.) The 324 GRADS, and their employees, were randomly divided in half to test two wordings of the directions to the Self-Rating Scale. Form A asked the employee to rate his performance as he thought his employer would rate it. Form B asked the employee simply to rate his performance. The Scales were otherwise identical. (See Appendix C: GRAD Questionnaires, Form A and Form B, and Cover Letter.)

After a remailing to non-respondents, 137 GRADS and 157 employers responded (48 GRAD surveys and 76 employer surveys came back "return to sender.") Subtracting these as "lost", there was a 49.6% GRAD return and 63.3% employer return. Of these, 70 were matched returns - that is,a return from a particular GRAD and his employer. (See Appendix D: Remailing Cover Letters)

Table I

Respondents (GRADS) to the OEDS2 Supplying Employers' Names
Occupational Training Area by Program and Sex

Program Sex		HS (Graduate)		HS (Non-graduate)		Coop Ed		Adult Prep		Invalid		Total	
		M	F	M	F	M	F	M	F	M	F	M	F
Occupational Training Area													
01.0100	Agriculture Production	2	0	0	0	0	0	0	0	0	0	2	0
01.0500	Ornamental Horticulture	0	3	0	0	0	0	0	0	0	0	0	3
01.0600	Conservation	0	1	0	0	0	0	0	0	0	0	0	1
04.0000	Distributive Ed, Pre-Vocat'n	1	6	0	0	0	0	0	0	0	0	1	6
04.0800	General Merchandising	2	1	0	0	1	1	0	0	0	0	3	2
04.1900	Transportation & Service	0	0	0	0	0	0	1	0	0	0	1	0
07.0200	Medical Laboratory	0	1	0	0	0	0	0	0	0	0	0	1
07.0307	Home Health Assisting	0	0	0	0	0	1	0	1	0	0	0	2
09.0203	Food Mgmt, Productn/Service	0	2	0	0	0	0	0	0	0	0	0	2
14.0100	Bookkeeping & Accounting	13	13	3	2	7	6	0	3	0	0	23	24
14.0200	Data Processing	3	3	0	0	0	0	0	4	0	0	3	7
14.0300	General Office	14	40	1	4	3	9	0	8	0	0	18	61
14.0700	Stenography	1	24	0	2	0	1	1	11	0	0	2	38
14.0108	Supervisory & Admin Mgmt	1	0	0	0	0	0	0	0	0	0	1	0
16.0103	Architectural Technology	3	0	0	1	0	0	0	0	0	0	3	1
16.0105	Chemical Technology	1	0	0	0	0	0	0	0	0	0	1	0
16.0106	Civil Technology	1	0	1	0	0	0	0	0	0	0	2	0
16.0108	Electronic Technology	1	0	0	0	0	0	5	1	0	0	6	1
16.0110	Environmental Control Tech	0	0	0	0	0	0	4	2	0	0	4	2
17.0100	Climate Control	0	0	2	1	0	0	2	0	0	0	4	1
17.0200	Appliance Repair	1	0	0	0	0	0	0	0	0	0	1	0
17.0300	Automotive Services	1	0	1	0	0	0	2	0	0	0	4	0
17.0400	Aviation Operation	8	0	1	0	0	0	0	0	0	0	9	0
17.0900	Photography Occupations	1	0	0	0	0	0	0	0	0	0	1	0
17.1000	Construction	6	0	2	0	0	0	4	1	0	0	12	1
17.1100	Custodial	0	0	1	0	0	0	8	1	0	0	9	1
17.1400	Electric Occupations	1	0	0	0	0	0	3	0	0	0	4	0
17.1500	Electronics	3	0	0	0	0	0	2	0	0	0	5	0
17.1900	Graphic Arts	3	0	0	0	0	2	0	0	0	0	3	2
17.2200	Maritime Occupations	1	0	0	0	0	0	0	0	0	0	1	0
17.2300	Machine & Metal Industries	0	0	2	0	1	0	7	0	0	0	10	0
17.2600	Personal Services	0	0	0	0	0	0	0	4	0	0	0	4
17.3300	Textile Productn/Fabricatn	0	0	0	3	0	1	5	21	0	0	5	25
Invalid		0	0	0	0	0	0	0	1	0	0	0	1
M/F Total		68	94	14	13	12	21	44	58	0	0	138	186
Total		162		27		33		102		0		324	

The following September, 50 of the Employers, selected at random, were sent the Rating Scale again and were given the same directions for rating the same person. Thirty of these ,or 60%, returned the Scale. For the GRADS, the grouping according to the two wordings of directions was maintained, and 30 were randomly selected from each group for the retest of the Rating Scale. Twenty-eight of the sixty, 46.7% responded. There was no attempt to match particular employers and GRADS. (See Appendix E: Reliability Rating Instruments and Cover Letters.)

The last task was a mailing for paired comparisons scaling. Another sample of 79 employers and 58 GRADS, not previously used in a retest, were sent the same items reordered into a series of paired comparisons according to Ross (1934). Only 17 GRADS, 29.3%, and 8 employers, 10.1%,responded. (See Appendix F: Paired Comparisions Instrument and Cover letters.)

Analysis

Employer Responses

For the initial employer evaluation, 92 complete returns, were analyzed. The three points on the scale, inadequate, adequate and more than adequate were converted to a scale of one, two and three respectively. Table 2, Summary of Employer Ratings, details the means and standard deviations for the fourteen items, and shows little variation, item by item ,on how the employers rated the graduates.

Table 2

Summary of Employer Ratings

Items	Means	SD
1. Familiar w/ equipment	2.55435	0.49976
2. Talent in job	2.64130	0.48225
3. Finds info.in print	2.39130	0.55384
4. Follows oral directions	2.61957	0.48815
5. Productive	2.69565	0.48582
6. Physical qualifications	2.57609	0.51853
7. Works well w/ peers	2.63043	0.48533
8. Works well w/ supervisor	2.64130	0.48225
9. Punctuality	2.55435	0.58110
10. Attendance	2.59783	0.57531
11. Follows-through	2.57609	0.49688
12. Self control	2.45652	0.58202
13. Takes criticism	2.34783	0.58243
14. Improves skills	2.65217	0.52277

N=92

Scale Mean 35.935

Grand Mean 2.567

Scale Variance 32.458

Mean Variance .277

The Alpha coefficient of reliability based on these same responses is .94861. Table 3, "Employer Item-Total Statistics", shows how little change deletion of any of the items would produce in the mean or variance of the Scale.

Table 3

Employer Item-Total Statistics

Item	Scale Mean If Item Deleted	Scale Variance If Item Deleted	Corrected Item - Total Correlation	Alpha If Item Deleted
1	33.38043	28.58994	0.67688	0.94626
2	33.29348	28.38545	0.74713	0.94462
3	33.54348	28.40468	0.63451	0.94754
4	33.31522	28.30614	0.75329	0.94445
5	33.23913	28.29384	0.75988	0.94430
6	33.35870	27.90289	0.78230	0.94363
7	33.30435	28.32394	0.75452	0.94443
8	33.29348	27.98985	0.82992	0.94266
9	33.38043	27.90862	0.68585	0.94633
10	33.33696	27.32477	0.79829	0.94314
11	33.35870	28.03476	0.79357	0.94344
12	33.47826	27.57095	0.74402	0.94469
13	33.58696	28.26708	0.62180	0.94812
14	33.28261	28.05112	0.74633	0.94454

Alpha = 0.94861

The Employer Inter-Item Correlations, reported in Table 4, reflect the same high level of consistency as the Alpha coefficient.

Table 4

Employer Inter-Item Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	1.00000													
2	0.60613	1.00000												
3	0.55756	0.61358	1.00000											
4	0.55865	0.62765	0.59732	1.00000										
5	0.61200	0.65462	0.52916	0.71116	1.00000									
6	0.57755	0.52783	0.58396	0.61487	0.57278	1.00000								
7	0.49147	0.50728	0.42127	0.60601	0.58967	0.59329	1.00000							
8	0.51494	0.62198	0.49015	0.62765	0.65462	0.70361	0.83594	1.00000						
9	0.36811	0.59972	0.47951	0.51919	0.52634	0.56965	0.53958	0.63893	1.00000					
10	0.51639	0.70219	0.60280	0.58396	0.65813	0.63784	0.60318	0.66258	0.73994	1.00000				
11	0.60270	0.64254	0.48960	0.55105	0.64325	0.70235	0.57357	0.64254	0.59446	0.70406	1.00000			
12	0.48046	0.47237	0.36018	0.54065	0.49678	0.61188	0.75945	0.74644	0.54318	0.58716	0.63854	1.00000		
13	0.42513	0.33171	0.28883	0.50918	0.41707	0.52998	0.57637	0.60557	0.39810	0.42206	0.55306	0.79070	1.00000	
14	0.61995	0.67658	0.51321	0.59537	0.66031	0.66625	0.52727	0.58940	0.46083	0.62591	0.65297	0.49150	0.50998	1.00000

KEY: 1. Familiar w/ equipment; 2. Talent in job; 3. Finds info in print; 4. Follows oral directions; 5. Productive; 6. Physical qualifications; 7. Works well w/ peers; 8. Works well w/ supervisor; 9. Punctuality; 10. Attendance ; 11. Follows-through; 12. Self control; 13. Takes criticism; 14. Improves skills

A factor analysis was performed to determine the dimensionality of the scale. A Principal Factors Solution was employed using squared multiple correlation coefficients as initial estimates of communality. Iterative solutions were generated to improve communality estimates. The scale was scored by averaging the raw item values. The factor matrix was rotated orthogonally to a varimax criterion, with the number of factors selected for rotation based on combined percentage of variance explained and resultant factor interpretability. Items were considered to be representative of a factor if they loaded .35 or better on that factor and substantially lower on the others. Table 5 shows the results of the Employer Factor Analysis.

All but three of the items loaded high on factor 1 which accounted for 61% of the Scale variance. These three items - *Works well with peers*, *Shows self control*, and *Is able to take criticism* - seem to be related to a more personal or interactive dimension of the Scale. Item 8, *Works well with supervisor* loaded about evenly on both factors as one might expect, given both the interactive and skills related aspects of the subordinate-to-superordinate relationship.

Table 5

Employer Factor Analysis

Items	Factor Loadings 1	Factor Loadings 2	h^2
1. Familiar w/ equipment	.64578	.30984	.5130
2. Talent in job	.80993	.23535	.7113
3. Finds info in print	.71211	.17159	.5365
4. Follows oral directions	.66130	.40839	.6041
5. Productive	.72913	.34858	.6531
6. Physical qualifications	.61876	.50456	.6374
7. Works well w/ peers	.43256	.70663	.6864
8. Works well w/ supervisor	.53585	.69565	.7711
9. Punctuality	.57071	.41362	.4968
10. Attendance	.73067	.39918	.6932
11. Follows-through	.64173	.49476	.6566
12. Self control	.27668	.91169	.9077
13. Takes criticism	.23385	.74945	.6164
14. Improves skills	.69599	.36140	.6150
% Total Variance	60.9	8.7	
% Common Variance	89.9	10.1	

Item by item test-retest correlations were computed using the first and second returns from the thirty employers who responded to both the first and the second questionnaires. Table 6, The Correlation Matrix, shows correlations ranging from .55 to .76 ($P < .001$) for twelve of the fourteen items. Only Item 3, *Finds necessary information in printed materials* and Item 14, *Shows desire to improve skills* did not maintain as highly a significant test-retest correlation, although even for these $P < .05$. They are detailed in Table 6, Employee Test--Retest Item Correlations.

Table 6

Employer Test-Retest Item Correlations

Items	Coefficient	Significance	Cases
1. Familiar w/ equipment	.6761	.001	24
2. Talent in job	.5708	.001	28
3. Finds info in print	.3849	.038	22
4. Follows oral directions	.7217	.001	28
5. Productive	.7672	.001	27
6. Physical qualifications	.6325	.001	26
7. Works well w/ peers	.6711	.001	28
8. Works well w/ supervisor	.7416	.001	27
9. Punctuality	.6016	.001	28
10. Attendance	.5841	.001	28
11. Follows-through	.5547	.001	27
12. Self control	.5922	.001	28
13. Takes criticism	.6902	.001	28
14. Improves skills	.3444	.021	27

GRAD Responses

GRAD responses to the scale were not as stable as employer responses by any of the measures for either Form A or Form B. To recapitulate: Group A was asked to "rate your performance...as you think your employer would rate you." Group B was asked to "rate your performance..."

Table 7, GRAD Self-Ratings, which reveals the means and standard deviations of both groups on each item, shows little difference in self-rating as produced by either set of directions.

Table 7

GRAD Self-Ratings

Item	Group A Means	Group A SD	Group B Means	Group B SD
1. Familiar w/ equipment	2.53333	0.50452	2.38462	0.49286
2. Talent in job	2.55556	0.50252	2.43590	0.50236
3. Finds info in print	2.40000	0.49543	2.28205	0.51035
4. Follows oral directions	2.48889	0.50553	2.51282	0.50637
5. Productive	2.77778	0.42044	2.58974	0.49831
6. Physical qualifications	2.55556	0.50252	2.61538	0.49286
7. Works well w/ peers	2.77778	0.42044	2.61538	0.49286
8. Works well w/ supervisor	2.57778	0.54309	2.58974	0.49831
9. Punctuality	2.60000	0.57997	2.53846	0.55470
10. Attendance	2.82222	0.38665	2.66667	0.52981
11. Follows through	2.73333	0.44721	2.56410	0.50236
12. Self control	2.55556	0.54588	2.41026	0.59462
13. Takes criticism	2.35556	0.52896	2.33333	0.52981
14. Improves skills	2.82222	0.38665	2.61538	0.54364

N=45		N=39	
Scale Mean	36.5556	Scale Mean	35.15385
Scale Variance	17.47980	Scale Variance	21.65992
Grand Mean	2.61111	Grand Mean	2.51099
Mean Variance	.23730	Mean Variance	.26894

The Alpha Reliability coefficients of .87224 for Form A and .88972 for Group B, while not as high as for the employers, still show high item-total consistency. As with the employer responses, deletion of any item from the reliability analysis of either Form A or Form B does little to change the Scale Mean, the Scale Variance, the Item-Total Correlation or the Alpha. Table 8, GRAD Item-Total Statistics details the effects of item deletions first for Form A, then for Form B. (See page 212.)

The inter-item correlation matrices of the GRAD responses show a different picture from the employers' responses. As shown in Table 9, GRAD Inter-Item Correlations, very few items correlate more than 0.6 with each other. For Form A these were only:

- *Shows talent in job performance* with *Finds information in printed material;*
- *Finds information in printed material* with *Can follow oral work directions;*
- *Shows self-control* with *Able to take criticism.*

Table 8

GRAD Item-Total Statistics

Form A

Item	Scale Mean If Item Deleted	Scale Variance If Item Deleted	Corrected Item-Total Correlation	Alpha If Item Deleted
1	34.02222	15.47677	0.44046	0.86860
2	34.00000	15.04545	0.55967	0.86230
3	34.15556	14.58889	0.69899	0.85486
4	34.06667	14.33636	0.75437	0.85160
5	33.77778	15.54040	0.53174	0.86406
6	34.00000	15.63636	0.40031	0.87066
7	33.77778	15.04040	0.69383	0.85677
8	33.97778	15.29495	0.44490	0.86891
9	33.95556	15.08889	0.45599	0.86896
10	33.73333	15.83636	0.48547	0.86629
11	33.82222	15.46768	0.51515	0.86466
12	34.00000	15.95455	0.52755	0.86425
13	34.20000	15.20909	0.48256	0.86662
14	33.73333	15.56364	0.57910	0.86249

Form A Alpha = 0.87224

Form B

Item	Scale Mean If Item Deleted	Scale Variance If Item Deleted	Corrected Item-Total Correlation	Alpha If Item Deleted
1	32.76923	19.34008	0.47911	0.88603
2	32.71795	18.52362	0.66693	0.87789
3	32.87179	19.53576	0.41311	0.88898
4	32.64103	18.76248	0.60205	0.88074
5	32.56410	18.30499	0.72857	0.87520
6	32.53846	18.46559	0.69677	0.87669
7	32.53846	18.88664	0.59067	0.88130
8	32.56410	18.72605	0.62270	0.87988
9	32.61538	18.76923	0.53742	0.88377
10	32.48718	19.36167	0.43271	0.88837
11	32.58974	18.03779	0.78971	0.87236
12	32.74359	18.93252	0.45875	0.88812
13	32.82051	19.51957	0.39723	0.88995
14	32.53846	18.51822	0.60830	0.88036

Form B Alpha = 0.88972

Key: 1. Familiar w/ equipment; 2. Talent in job; 3. Finds info in print; 4. Follows oral directions; 5. Productive; 6. Physical qualifications; 7. Works well w/ peers; 8. Works well w/ supervisor; 9. Punctuality; 10. Attendance; 11. Follows-through; 12. Self control; 13. Takes criticism; 14. Improves skills

GRAD Form B correlations greater than 0.6 are more frequent than Form A, but still far less frequent than employers. They include:

- *Familiar with equipment* with *Can follow oral work directions;*
- *Finds information in printed material* with *Productive worker;*
- *Has physical qualifications* with *Works well with fellow employees;*
- *Productive worker* with *Follows through on job assignment;*
- *Punctuality* with *Attendance;*
- *Follows through on job assignment* with *Desire to improve skills.*

Table 9 details the Inter-Item Correlations, first for Form A and then for Form B. (See page 214.)

The factor analysis bears out the difference in constructs underlying the use of the scale for self-rating as opposed to employer rating of employees indicated in the low inter-item correlations cited above.

Using the Principal Factors Solution with orthognal varimax rotation, as described earlier for the employer responses, not nearly as clear a factor structure emerges. The proportion of variance explained, for both Forms A and B suggest a four factor solution. However,in examining the results of that varimax rotated solution, few clearly strong loadings emerge either within Form A results or Form B results or in examaning Form A as compared to Form B. The single exception is in the first four items which load high on a single factor (Factor 1 for Form A, Factor 2 for Form B). These items - *Is familiar with equipment*; *Shows talent in job performance*; *Finds information in printed material*; and *Follows oral directions* - do not seem to form a strong logical structure apart from the scale as a whole. (It should be noted that the low ratio of subjects to items casts doubts on this factor analysis of GRAD responses.) The results of the factor analysis are presented in Table 10, GRAD Factor Analysis, Form A and Form B.

As shown in the relevant discussions and tables, the Employee Rating Scale did not perform with the same stability as a self-rating instrument, as it did as an instrument to assess others. Given the difficulties inherent in most attempts at self-assessment this is not surprising. One may hypothesize that the lack of unidimensionality present in the GRAD results reflects an underlying complexity of view that one has about one's own behaviors, in contrast to the picture others may draw. (See page 216)

Table 9 Form A

GRAD Inter-Item Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	1.00000													
2	0.32869	1.00000												
3	0.40007	0.63901	1.00000											
4	0.46931	0.51691	0.65336	1.00000										
5	0.46429	0.59761	0.43644	0.52277	1.00000									
6	0.23905	0.28000	0.36515	0.33798	0.16733	1.00000								
7	0.35714	0.27490	0.32733	0.52277	0.35714	0.38247	1.00000							
8	0.25989	0.21282	0.47302	0.52060	0.27648	0.04626	0.47555	1.00000						
9	0.03107	0.15596	0.41130	0.44960	0.18641	0.15596	0.37282	0.46179	1.00000					
10	0.14758	0.05199	0.26102	0.33849	0.31068	0.28593	0.45049	0.17558	0.48649	1.00000				
11	0.24175	0.26968	0.28721	0.38871	0.40291	0.37081	0.40291	0.08734	0.45565	0.50822	1.00000			
12	0.13754	0.42346	0.33615	0.39349	0.15404	0.25776	0.55015	0.19591	0.21536	0.26322	0.34136	1.00000		
13	0.29523	0.35151	0.48565	0.35508	0.15897	0.09500	0.46555	0.13889	0.25188	0.31609	0.12169	0.63843	1.00000	
14	0.38059	0.40290	0.37966	0.45477	0.31068	0.40290	0.59030	0.28381	0.18243	0.39189	0.37679	0.37090	0.20496	1.00000

KEY: 1. Familiar w/ equipment; 2. Talent in job; 3. Finds info in print; 4. Follows oral directions; 5. Productive; 6. Physical qualification; 7. Works well w/ peers; 8. Works well w/ supervisor; 9. Punctuality; 10. Attendance; 11. Follows-through; 12. Self control 13. Takes criticism; 14. Improves skills

Table 9 Form B

GRAD Inter-Item Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	1.00000													
2	0.47420	1.00000												
3	0.28972	0.43163	1.00000											
4	0.66511	0.54644	0.54571	1.00000										
5	0.33793	0.62805	0.26002	0.43856	1.00000									
6	0.40833	0.48238	0.12876	0.38933	0.51926	1.00000								
7	0.30000	0.48238	0.44263	0.49478	0.41211	0.67500	1.00000							
8	0.33793	0.41780	0.36350	0.43856	0.57609	0.51926	0.41211	1.00000						
9	0.18511	0.26878	0.10011	0.11531	0.43941	0.58494	0.19992	0.43941	1.00000					
10	0.00000	0.16479	0.06488	-0.03270	0.46516	0.40311	0.10078	0.36548	0.71635	1.00000				
11	0.37609	0.45989	0.28688	0.48808	0.84369	0.58049	0.47420	0.52832	0.58116	0.52733	1.00000			
12	0.34536	0.44275	0.21568	0.50647	0.40535	0.19340	0.19340	0.22772	0.11047	0.19491	0.43823	1.00000		
13	0.10078	0.42845	0.22709	0.13079	0.23258	0.40311	0.40311	0.13290	0.26863	0.21875	0.26366	0.38982	1.00000	
14	0.27198	0.34096	0.21159	0.35297	0.47076	0.51374	0.41552	0.47076	0.53031	0.45683	0.62263	0.25675	0.18273	1.00000

* KEY: 1. Familiar w/ equipment; 2. Talent in job; 3. Finds info in print; 4. Follows oral directions; 5. Productive; 6. Physical qualifications; 7. Works well w/ peers; 8. Works well w/ supervisor; 9. Punctuality; 10. Attendance; 11. Follows-through; 12. Self control; 13. Takes criticism; 14. Improves skills

Table 10 Form A

GRAD Factor Analysis

Items	Factor Loadings				h^2
	1	2	3	4	
1. Familiar w/ equipment	.56176	.0973	.23979	-.07440	.3881
2. Talent in job	.70037	.26546	.10720	.03354	.5736
3. Finds info in print	.68829	.29903	.09822	.35143	.6963
4. Follows oral directions	.64893	.21340	.30947	.35878	.6912
5. Productive	.63994	-.03136	.29922	.10146	.5107
6. Physical qualifications	.24363	.10192	.46425	-.00463	.2836
7. Works well w/ peers	.26952	.41701	.56560	.19750	.6055
8. Works well w/ supervisor	.37766	.11074	.08229	.44779	.3622
9. Punctuality	.01688	.10506	.29200	.94745	.9943
10. Attendance	.02334	.15350	.61256	.31401	.4980
11. Follows-through	.17960	.04135	.65442	.20913	.5060
12. Self control	.15161	.74519	.30931	.05012	.6765
13. Takes criticism	.20484	.78638	.07415	.14171	.6859
14. Improves skills	.37618	.19482	.55757	.01091	.4905
% Total Variance	39.2	10.7	9.1	8.2	
% Common Variance	63.8	14.6	11.6	10.0	

Table 10 Form B

GRAD Factor Analysis

Items	Factor Loadings				h^2
	1	2	3	4	
1. Familiar w/ equipment	.12027	.61547	.17361	-.02280	.4239
2. Talent in job	.24984	.61050	.21421	.29885	.5703
3. Finds info in print	.04451	.49167	.20946	.10246	.2981
4. Follows oral directions	.05867	.90951	.20527	-.03086	.8738
5. Productive	.62950	.50639	.07792	.10322	.6694
6. Physical qualifications	.53688	.24517	.61094	.17296	.7515
7. Works well w/ peers	.17188	.40394	.69482	.20569	.7178
8. Works well w/ supervisor	.49200	.40087	.27883	-.04287	.4824
9. Punctuality	.76694	-.00773	.17837	.09839	.6767
10. Attendance	.82739	-.08880	-.04889	.13984	.7144
11. Follows-through	.72841	.48335	.11571	.08877	.7855
12. Self control	.19462	.56652	-.20849	.35607	.5291
13. Takes criticism	.13876	.11272	.21783	.94132	.9655
14. Improves skills	.58631	.27589	.24288	.02083	.4793
% Total Variance	42.8	14.1	8.1	7.4	
% Common Variance	63.2	18.2	11.0	7.5	

The test-retest of Form A and B (presented individually and combined in Table 11, GRAD Test-Retest Correlations, bring out further difficulties in self-rating. There are sixteen matched respondents for Form A and twelve for Form B. Form B shows somewhat more of a degree of consistency over time with four items reaching a correlation coefficient at a significant level ($P < .01$), as opposed to Form A which has only one. It is interesting to note that the one significant item of Form a (*Finds information in printed material*) does reach a level of significance in the Form B correlations.

Table 11

GRAD Test-Retest Correlations

Form A				Form B			Combined		
Item	Coeff.	Signif.	N	Coeff.	Signif.	N	Coeff.	Signif.	N
1	.5164	.020	16	.1690	.300	12	.3656	.028	28
2	.1170	.345	14	*.6831	.007	12	.3041	.065	26
*3	*.7276	.004	12	.5774	.067	8	*.6558	.001	20
4	.4910	.032	15	*.6901	.009	11	*.5723	.001	26
5	.1205	.348	13	*.6901	.009	11	.3696	.038	24
6	.1325	.326	14	*.6901	.009	11	.3419	.047	25
7	.2877	.170	13	.3536	.130	12	.2976	.074	25
8	.4478	.062	13	.1981	.280	11	.3603	.047	24
9	.4885	.038	14	.2421	.224	12	.1457	.027	26
10	.2533	.191	14	.2928	.178	12	.1457	.239	26
11	0	.500	16	.3714	.117	12	.1220	.268	28
12	.3423	.106	15	.4781	.058	12	.3903	.022	27
13	.4154	.062	15	0	.500	12	.2867	.074	27
14	.1096	.349	15	*.7071	.005	12	.3477	.030	27

* $P < .01$

The GRAD responses to the scale at first glance seem less stable than the employers' (twelve employer items had correlations, $P. < .001$. However, there are several conclusions that can be drawn from this other than that the scale does not perform stably. It must be remembered that for most of the graduates the rating has been done in their first year of work. It is quite possible that the lack of correlation between the first and second ratings reflect a real change in how they perceive themselves on the job. Employers, on the other hand, are generally experienced in rating employees and one would expect less change over what, from the employers' point of view, would be a short period of time.

Employer-GRAD Correlations

The initial responses to the questionnaires included seventy matched pairs of GRADS and their employers. Item by item correlations were computed to see what relationship one could find between the employer rating and the self-rating.

In Table 12, GRAD-Employer Item Correlations, we can see that there is little significant correlation between employer rating and self-rating, no matter which form of direction was given. Only one item, *Works well with immediate supervisor*, achieved a correlation with $P < .01$.

Given the previously observed differences between the response patterns of the employers and GRADS, this result comes as no surprise. Since the employers were in all respects consistent in their individual ratings, and GRADS varied from item to item as well as over time, it would not be likely that their responses would correlate highly.

Table 12

GRAD-Employer Item Correlations

	Form A			Form B			Combined		
Item	Coeff.	Signif.	N	Coeff.	Signif.	N	Coeff.	Signif.	N
1	.0278	.442	30	.3130	.073	23	.1640	.120	53
2	.1479	.210	32	-.1568	.232	24	0	.500	56
3	.0467	.416	23	-.1612	.283	15	.0254	.440	38
4	.3220	.039	31	.0780	.355	25	.2052	.065	56
5	.2632	.080	30	-.1845	.183	26	.0445	.376	56
6	.0326	.432	30	0	.500	24	.0175	.450	54
7	.0674	.362	30	-.1682	.206	26	.0630	.322	56
8	*.6426	.001	28	.1213	.282	25	*.3904	.002	53
9	.3944	.017	29	-.1125	.296	25	.1923	.082	54
10	.0987	.302	30	-.2933	.077	25	-.0533	.349	55
11	.0053	.489	30	.0436	.420	24	.0060	.483	54
12	.2082	.131	31	.2145	.146	26	.2339	.040	57
13	.0342	.429	30	.1150	.292	25	.0760	.291	55
14	.1327	.235	32	-.2564	.108	25	-.1184	.190	57

* $P < .01$

KEY: 1. Familiar w/ equipment; 2. Talent in job; 3. Finds info in print; 4. Follows oral directions; 5. Productive; 6. Physical qualifications; 7. Works well w/peers; 8. Works well w/supervisor; 9. Punctuality; 10. Attendance; 11. Follows-through; 12. Self control; 13. Takes criticism; 14. Improves skills

It should be noted that other survey questions also asked GRAD and Employer for the same information. Chief among these was the open-ended question for job title. Table 13, Job Titles Reported, reports the actual job title given in each of the 70 matched cases. In the 50 cases in which both GRAD and Employer responded, 82.0% match. Thus one can see that "factual" questions do pull much more similar responses than questions of attitude.

Table 13

Job Titles Reported

Case	GRAD	Employer	Match Code
8290		Assembler	2
8294	Clerk Typist	Clerk Typist	1
8281	Typist	Typist	1
8285	DTC Transfer Clerk		2
8296	Pharmacy Aid	Bookkeepr	0
8303	Transcriber/Secretary	Credit Clerk	1
8300	Office Clerk	Office Clerk	1
8002	Copy Center Operator	Messenger	0
8216	Records Clerk	Records Clerk	1
8221	Office Clerk	Gal Friday	1
8014	Bank Teller	Teller	1
8036	Customer ServiceClerk	Office Clerk	1
8065	Senior Clerk	Senior Clerk	1
8074	Clerical Assistant	Clerical Assistant	1
8097		Typist-Clerk	2
8115	Bank Teller	Branch Teller	1
8147	Cashier	Checker	1
8151	Elect'l Apprentice	Elect'l Apprentice	1
8313			2
8269	Office Clerk	Office Clerk	1
8061	Air Cond Mechanic	Maintenance Mechanic	1
8008	Secretary		2
8048	Sales Clerk	Grocery Clerk	1
8040	Cashier	Food Handler	0
8066		Elevator Operator	2
8067		Stock Clerk	2
8055	Secretary	Secretary	1
8283		Mail Clerk	2
8292		Order Clerk	2
8301	Duplic Press Operator	Press Operator	1
8231	Superintendent	Superintendent	1
8241	Stockman	Stock Clerk	1
8239	Secretary	Secretary	1
8175	Pumping Gas	Messenger	0
8179	Food Clerk	Food Clerk	1
8187		Knitter's Helper	2
8186	NCR Operator		2
8191	Projectionist	Projectionist	1
8160	Secretary		2
8136	Dental Assistant	Dental Assistant	1
8140	P & S Clerk	Office Clerk	1
8141		Lab Glasswasher	2
8110	Salesman		2
8108	Secretary	Secretary	1
8128	Cashier	Cashier	1
8132	Stenographer	Cashier	0
8131	Secretary	Secretary	1
8128	Cashier	Cashier	1
8132	Stenographer	Cashier	0
8131	Secretary	Secretary	1
8098	Secretary	Receptionist	1

Table 13 (cont'd)

Case	GRAD	Employer	Match Code
8088	Stock Boy		2
8076	Subscription Manager		2
8069	Receptionist/Clerk	Receptionist	1
8077	Clerk & Typist	Cashier	0
8084	Bank Teller	Warehouseman	0
8298	Machine Operator	Sewing Machine	
8242	Sewing Machine	Sewing Machine	1
8229	Superintendent	Sales Representative	0
8306	Receptionist-Biller	Receptionist	1
8278	Stenographer		2
8028	Building Maintenance	Handyman	1
8035	Accounting Clerk	Office Clerk	1
8277	Secretary	Secretary	1
8267	Elevator Operator		2
8228	Teacher	Teacher	1
8226	Taxi Driver		2
8255	Therapy Aide	Mental Health Aide	1
8248	Building Maintenance	Handyman	1
8261	Accounting Clerk	Office Clerk	1
8235	Superintendent		2
8127	Secretary-Bookkeeper	Tax Accountant	1
8169	Sheet Metal Lay-out	Foreman	0
8327	Typist	Typist	1

KEY: 1=match, 0=no match, 2=invalid (response missing)

Paired Comparisons

The final effort in analyzing this scale was to see if one could order the items for the employers so that an employer's rating of an employee on a particular item could be weighted by the scale value of the item. In an attempt to make the scale more useful, one also hoped to see whether the graduates would scale the items in the same way.

The mailing of this questionnaire pulled such a poor response that it must be noted. It is quite possible that the 8 employers out of 79 who responded are different in some way from the larger group. It must be admitted that this questionnaire, which included five pages of 91 items, was a formidable looking thing. While the response of 17 graduates out of 58 was somewhat better, it still did not approach the rate of earlier returns in this study.

The methods used to analyze these response are those outlined by Edwards (1956) except as otherwise noted.

Table 14, Scale Value of Items, shows the results of the scaling using case V assumptions. There appears to be a general lack of agreement between the GRADS and Employers about the less important skills. However, of the four job keeping skills that employers found most important the GRADS also chose three.

It is interesting that *Attendance*, third in importance for the employers, fell to sixth from the top, right in the middle, for the GRADS. Based on other studies of employers' dissatisfactions, such as Lynton's Employers' Views on Hiring and Training (1978), it was expected that this would be an item on which employers would rate employees as less than satisfactory. This did not show up in the ratings. The mean for *Attendance* was 2.70, close to the overall mean of 2.67. Perhaps this difference in relative importance of the items is more telling than the rating.

Table 14

Scale Value of Items

GRAD Order *	Employer Order*	Item	Employer Scale Values	GRAD Scale Values
3	1	Finds info in print	0.0	.619
5	2	Familiar w/ equipment	.015	.720
10	3	Improves skills	.504	1.097
6	4	Takes criticism	.634	.750
1	5	Physical qualifications	.761	0.0
11	6	Works well w/ peers	.914	1.164
2	7	Works well w/ supervisor	.968	.598
4	8	Self control	.997	.672
7	9	Talent in job	1.048	.896
8	10	Punctuality	1.161	.935
12	11	Follows oral work	1.207	1.388
9	12	Attendance	1.699	1.072
14	13	Productive	1.781	1.276
13	14	Follows-through	1.945	1.245

* 1 = Least important to 14 = Most important

The average discrepancy, Mosteller's x^2, and a coefficient of agreement were computed for both the employers and GRADS. For the employers, although the average discrepancy of .113 would be considered high by the standards given in Edward's, Mosteller's x^2 was not significant (x^2=98.77, dF=78). One can therefore assume, on this basis, unidimensionality of the Scale as used by this group of employers. This supports the factor analysis findings. For the GRADS on the other hand, not only was there an average discrepancy of .105, but also a significant x^2. (x^2=143.95, dF=78, $P < .001$). Again, the self-rating is not unidimensional. The coefficients of agreement, computed separately, happened to be the same, Kendall's U=116 ($P < .001$) for each of the two groups.

Because of the significant x^2 for the graduates, discriminal dispersions, corrected Scale values and a corresponding x^2 were computed to see if wide differences in item variance had been the major factor in the magnitude of Mosteller's x^2.

Mosteller's x^2 was computed on the basis of these new values using Guilford's correction for the degrees of freedom (1954). It was significant ($P < . 001$) thus failing to support the assumptions of case III. This tends to confirm the inapplicability of the Scale as a self-rating instrument. Self-raters, as opposed to employer raters, seem to view the items as coming from different aspects rather than falling on a single dimension of attitude or behavior.

The final test performed was recomputation of the Scale values for the employers using Case V Incomplete Data to adjust for the items with a proportion of 0 or 100. Those items chosen 100% of the time included:

- *Punctuality* over *Familiar with equipment;*
- *Productivity* over *Finds information in print* and *Familiar with equipment;*
- *Attendance* over *Familiarity with equipment* and *Takes criticism;*
- *Follows-through* over *Finds information in print* and *Desire to improve skills*

As shown in Table 15, Adjusted Employer Scale Value for Incomplete Data, the corrections produce no change in the order, and little in the magnitude of the Scale values.

Table 15

Adjusted Employer Scale Values for Incomplete Data

Item		Original Values	Adjusted Values
1	Finds info.in print	0.0	0.0
2	Familiar w/equipment	.015	.310
3	Improves skills	.504	.476
4	Takes criticism	.634	.567
5	Physical qualifications	.761	.742
6	Works well w/peers	.914	.857
7	Works well w/supervisor	.968	.913
8	Self control	.997	1.200
9	Talent in job	1.048	1.205
10	Punctuality	1.161	1.212
11	Follows oral work	1.207	1.411
12	Attendance	1.699	1.537
13	Productive	1.781	1.731
14	Follows-through	1.945	1.751

Discussion

In the attempt to develop the Employee Rating Scale, it was hoped that it could serve two purposes: First that the Scale could be used to have employers rate particular jobkeeping skills of graduates for eventual program evaluation; Second, that it could be used as a self-rating assessment to measure employment readiness of students in occupational training programs.

As an instrument to be used by employers, the scale proved internally consistent and reliable over time. The high correlations between items, the lack of variation in item means, and the high Alpha of consistency point to a robust scale.

The factor analysis and the test of unideimensionality associated with the Paired Comparisons technique both suggest a strong single underlying construct. Thus the scale may be used to differentiate among programs, institutions, or other organizational variables that "cause" higher levels of job keeping skills in general.

On the other hand, the scale, as used by the GRADS, showed a lask of unidimensionality which emerged in the test of paired comparisons and the factor analysis. Self-raters do not see the items as falling on a single continuum.

Moreover, the difference in results from the GRADS, paired comparisons and the employers' paired comparisons echoed differences in the matched ratings of employer and employee. The lack of correlation between rater and self-rater may be attributable to many complex factors. However, one which seems to be particularly relevant in this Scale development is an underlying difference in the constructs with which the two groups approached the scale. This difference would have produced not only the differences in paired comparisons, and person-to-person correlation, but also the differences in inter-item correlations as produced by the employer ratings, and as produced by the GRAD self-ratings.

Since the theoretical basis for using the scale for self-assessment was that self-rating had to share a common underlying construct with the employer rating, and since it does not, it is suggested that the scale will not prove useful in self-assessment.

Based upon the testing described above, it was decided that the scale could prove useful in assessing subgroups of graduates. The major modification was to expand the choices from 3 discrete categories to a scale of 1 to 5. In addition, it was decided that assessments to be made using the scale would utilize both raw scores and scaled scores developed in the Paired Comparisons.

Other Survey Questions

Responses to-the other questions on the Instrument - job title, length of employment, etc. were examined on a case by case basis to see whether the answers seemed responsibe. A general lack of employer responsiveness was deemed reason for question rewording. The changes in the final format reflect this process.

CHAPTER 2

PROGRAM ASSESSMENT BY MEANS OF THE EMPLOYEE RATING SCALE: FOLLOW-UP OF 1978 HIGH SCHOOL GRADUATES WITH OCCUPATIONAL TRAINING

Using the procedures established in developing and field testing the Employee Rating Scale, a group from the New York City High School Class of 1978 with occupational training was selected for study.

As was usual practice, a sample of the previous year's 11th grade students who had shown enrollment in the appropriate classes on the Occuplational Enrollment survey were sent the OEDS 2. All of those who reported, on the OEDS 2, that they had graduated and who supplied their employers' names were included.

The employers were mailed, the revised Employee Rating Scale with a remailing to non-respondents. (Appendix G: Employee Rating Scale and Cover Letters.)

Total scores, and total weighted scores (based on the paired comparisons responses) were computed for each individual and then grouped for comparison by type of high school (academic or vocational). Employer responses to questions of whether or not high school occupational training had been the basis for hiring and whether or not the employee was still with the company were also examined in relation to graduation from an academic or vocational high school.

Finally,total and weighted scores were grouped first on the basis of whether or not training had been the basis for hiring and then on the basis of whether or not the subject was still with the company.

Analysis of Variance and Chi Square techniques were used to determine differences between and among these groups.

Included in the section which follows, in addition to the analysis described above, are detailed breakdowns of the group under study, means and standard deviations of each scale item, and individual item responses by sex.

Population Studied

The Graduates

Each year New York City High School students enrolled in occupational education complete the Occupational Enrollment Survey. A sample of those scheduled to graduate, are routinely sent a follow-up questionnaire (Appendix A: OEDS 2) the following Fall. All high school students of the Class of 1978 who responded to the Fall 1978 OEDS2 and supplied their employers' names were included in this study of employer satisfaction.

This group of 381 subjects was composed of 232 girls and 149 boys who had graduated from 87 of the City's public high schools. The number of graduates from any particular school ranged from 1 to 13. The distribution among occupational education areas was uneven,with approximately 75% coming from Business and Clerical areas, 15% from Trade/Industry programs, 3% from Technical Programs, 3% from Health Occupations, 2% from Home Economics Occupations, 1% from Distributive Education,and less than 1% (1 subject) from Agriculture.

Table 16, Occupational Courses for Fall 1978 Graduates, shows the breakdown by specific occupational education programs for boys, for girls, and for the total group surveyed. (See page 226.)

Examination of this table shows a clustering of respondents by sex with the females having 90% in Business, 3% in Health and 2% each in Trade/Industry, Home Economics, and Distributive Education; in contrast to the males who had 50% in Buisness, 34% in Trade/Industry 10% in Technical, and 1% each in Distributive Education, Health, and Home Economics. Another way of stating this is that 100% of the graduates from Technical programs were male, and 66% of the Distributive Education graduates were female. 78% of the Health graduates were female; 83% of the Home Economics graduates were female; 73% of the Business graduates were female; and 86% of the Trade/Industry graduates were male.

One might ask to what extent this group's training is representative of occupational training enrollment in the City. In the school year 1978-79,there were 128,874 students enrolled in occupational education; 54% were in Business; 9% were in Health, 2% were in Home Economics; 25% were in Trade/ Industry,and 8% were in Technical courses.

The breakdown by occupational cluster, giving totals for boys, for girls , and for the total group, is given in Table 17, New York City High School Occupational Enrollments 1978-79.

Table 17

New York City High School Occupational Enrollments 1978-79

Occ Ed Cluster	Male	Female	Total
Agriculture	1,339	1,100	2,439
Business	19,700	50,300	70,000
Health Careers	1,884	9,894	11,778
Home Economics	389	1,875	2,264
Trade/Industry	24,367	8,133	32,500
Technical	7,883	1,910	9,793

TABLE 16

Occupational Courses for Fall 1978 Graduates

Occ. Ed. Number	Name	Male Freq.	Male Adj.%	Female Freq.	Female Adj.%	Total Freq.	Total Adj.%	Total Cumulative %
01.0500	Ornamental Horticulture	0	0	1	0	1	0	0
04.0100	Advertising Services	0	0	1	0	1	0	1
04.0300	Service Station Management	0	0	1	0	1	0	1
04.0800	General Merchandising	1	1	1	0	2	1	1
04.1800	Recreation and Tourism	1	1	0	0	1	0	2
07.0103	Dental Laboratory Technology	1	1	0	0	1	0	2
07.0302	Nursing, Licensed Practical	0	0	2	1	2	1	2
07.0303	Nurse Assistant	1	1	1	0	2	1	3
07.0904	Medical Assisting	0	0	3	1	3	1	4
07.0940	Invalid Occ. Code	0	0	1	0	1	0	4
09.0201	Care and Guidance of Children	0	0	1	0	1	0	4
09.0202	Clothing Management	0	0	2	1	2	1	5
09.0203	Food Management, Prod. & Services	1	1	2	1	3	1	6
10.4000	Invalid Occ. Code	1	1	0	0	1	0	6
14.0000	Business, Pre-Vocational	4	3	8	3	12	3	9
14.0100	Bookkeeping and Accounting	48	32	68	29	116	30	39
14.0200	Data Processing	8	5	7	3	15	4	43
14.0300	General Office	16	11	69	30	85	22	66
14.0700	Stenography	1	1	54	23	55	14	80
14.0900	Pre-Technical Business Education	0	0	1	0	1	0	80
14.9900	Other Office	2	1	1	0	3	1	81
16.0105	Chemical Technology	1	1	0	0	1	0	81
16.0108	Electronic Technology	11	7	0	0	11	3	84
16.0113	Mechanical Technology	1	1	0	0	1	0	85
16.9900	Other Technical Occupations	1	1	0	0	1	0	85
17.0100	Climate Control	1	1	0	0	1	0	85
17.0300	Automotive Services	13	9	1	0	14	4	89
17.0400	Aviation Operation	10	7	0	0	10	3	91
17.0700	Commercial Art	2	1	2	1	4	1	92
17.0800	Photography Occupations	0	0	1	0	1	0	93
17.1000	Construction	5	3	0	0	5	1	94
17.1300	Drafting	2	1	0	0	2	1	94
17.1400	Electrical Occupations	7	5	0	0	7	2	96
17.1500	Electronics	4	3	0	0	4	1	97
17.1900	Graphic Arts	3	2	2	1	5	1	99
17.2300	Machine and Metal Industries	2	1	0	0	2	1	99
17.2600	Personal Services	0	0	1	0	1	0	99
17.3300	Textile Production and Fabrication	0	0	1	0	1	0	100
17.9900	Special Servicing	1	1	0	0	1	0	100

Employer Survey Returns

The employers of the 381 graduates were sent the revised Employee Rating Scale. Usable responses were received from 31.5% in the first mailing and 16.5% were returned but not usable - wrong address, never heard of employee etc. A remailing brought the total of usable responses to 157 or 41.2% of the group. Simple non-returns accounted for 36.4%; wrong address accounted for 4.7%; 12.9% said they had no records for the name supplied and 5.5% said that company policy prohibited a response.

These returns approximately maintained the proportions of the populations: 60% of the original group being female and 61.8% of the employer responses coming from females' employers. Because of the high correlation between sex and occupational training cluster, it is evident that this original balance was also maintained.

Analysis

The Employee Rating Scale

There were 157 employer responses. Their overall rating of the graduates was at the high end of the 1 to 5 scale with a total scale mean of 4.195 (SD=.726). This mean was derived by summing each graduate's total score and dividing by the number of graduates. The Weighted Scale Mean was 4.107 (SD=.732). This was derived by multiplying each item response on each graduate's score by the scale value assigned through the test of paired comparisons. The graduates' weighted scores were summed and divided by the number of graduates.

A mean also computed for each item. The highest item mean (4.481) was for Item 7 *Works well with fellow employees.* The next two highest, both over 4.3 were for Item 6 *Has necessary physical qualifications* (mean=4.403) and Item 8 *Works well with immediate supervisor* (mean=4.312). Indeed, only two items had means below 4.0 and both of these were still way above the scale midpoint of 2.5. Item 3 *Finds necessary information in printed material* was lowest with a mean of 3.912. Just above it was Item 2 *Shows talent in job performance* (m=3.912). However, as one might expect, based on the earlier correlations found within the scale, there is little difference among items.

There was also little difference between males and females. The males had a Total Scale Mean of 4.189 (SD=.752) and Weighted Scale Mean of 4.088 (SD=.761) while the females had a Total Scale Mean of 4.201 (SD=.722) and a Weighted Scale Mean of 4.120 (SD=.724). (In examining the relative scores of males and females it should be noted that a relatively small number of subjects, 159, has been broken into an unevenly distributed group of approximately 3 females to 2 males. It should also be noted that the occupational clusters in which the men and women received training differ.) There are slight variations in Item Means for females and males, but these are not conclusive.

The girls had Item Means above 4.3 on four items:

Item 7. *Works well with fellow employees* (m=4.464, SD=.693)

Item 6. *Has necessary physical qualifications (strength, endurance, vision, etc.)* (m=4.411, SD=.722)

Item 8. *Works well with immediate supervisor* (m=4.340, SD=.877)

Item 9. *Arrives on time (punctuality)* (m=4.330, SD=1.018)

They fell below 4.0 on two items:

Item 3. *Finds necessary information in printed material* (m=3.882, SD=1.031)

Item 2. *Shows talent in job performance* (m=3.059, SD=.999)

The boys on the other hand scored above 4.3 on 2 items:

Item 4. *Works well with fellow employees* (m=4.509, SD=.710)

Item 6. *Has necessary physical qualifications (strength, endurance, vision, etc.)* (m=4.360, SD=.794)

They scored below 4.0 on only one item:

Item 3. *Finds necessary information in printed material* (m=3.962, SD=.969)

While it would be interesting to speculate on the possible causes of the smaller variation in boys' scores, the numbers are too small and the scale too rough an instrument to do this. Table 18, Scale Item Responses, details the responses item by item, score by score, for the entire group, boys, and girls. It should be noted that differences between the numbers responding result from incomplete responses either to the Scale or to the question on sex. The complete wording for each question is given. In the right hand column, the numbers 1 to 5 indicate possible responses, followed by mean and standard deviation.

Table 18

Scale Item Responses: Total, Male, Female

Item 1. Is familiar with necessary equipment.

Subjects	Total		Male		Female	
Responses	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)
1	1	0.6	0	1.7	1	1.0
2	1	1.3	1	1.7	0	1.0
3	35	23.6	14	25.9	20	21.6
4	53	57.3	19	58.6	34	56.7
5	67	100.0	24	100.0	42	100.0
Mean	4.172		4.138		4.196	
SD	.841		.847		.837	

Item 2. Shows talent in job performance.

Subjects	Total		Male		Female	
Responses	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)
1	3	1.9	2	3.4	1	1.0
2	7	6.4	1	5.2	6	7.2
3	40	31.8	13	27.6	26	34.0
4	47	61.8	19	60.3	27	61.9
5	60	100.0	23	100.0	37	100.0
Mean	3.981		4.034		3.959	
SD	.997		1.008		.999	

Item 3. Finds necessary information in printed material.

Subjects	Total		Male		Female	
Responses	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)
1	3	2.0	1	1.9	2	2.2
2	9	8.2	1	3.8	8	10.8
3	36	32.7	16	34.6	19	31.2
4	49	66.0	15	63.5	34	67.7
5	50	100.0	19	100.0	30	100.0
Mean	3.912		3.962		3.882	
SD	1.006		.969		1.031	

Item 4. Can follow oral work directions.

Subjects	Total		Male		Female	
Responses	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)
1	1	0.6	0	5.2	1	1.0
2	9	6.4	3	5.2	6	7.2
3	23	21.0	9	20.7	13	20.6
4	60	59.2	21	56.9	38	59.8
5	64	100.0	25	100.0	39	100.0
Mean	4.127		4.172		4.113	
SD	.911		.881		.934	

Table 18 (cont'd)

Item 5. Is a productive worker.

Subjects	Total		Male		Female	
Responses	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)
1	5	3.2	2	3.4	3	3.1
2	4	5.7	1	5.2	3	6.2
3	28	23.6	12	25.9	16	22.7
4	46	52.9	16	53.4	29	52.6
5	74	100.0	27	100.0	46	100.0
Mean	4.146		4.121		4.155	
SD	1.012		1.027		1.014	

Item 6. Has necessary physical qualifications (strength, endurance, vision, etc.).

Subjects	Total		Male		Female	
Responses	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)
1	0	0.0	0	0.0	0	0.0
2	2	1.3	0	0.0	2	2.1
3	18	13.0	11	19.3	7	9.5
4	50	45.5	14	43.9	36	47.4
5	84	100.0	32	100.0	50	100.0
Mean	4.403		4.368		4.411	
SD	.746		.794		.722	

Item 7. Works well with fellow employees.

Subjects	Total		Male		Female	
Responses	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)
1	0	0.0	0	0.0	0	0.0
2	2	1.3	0	0.0	2	2.1
3	12	9.0	7	12.3	5	7.2
4	51	41.7	14	36.8	36	44.3
5	91	100.0	36	100.0	54	100.0
Mean	4.481		4.509		4.464	
SD	.695		.710		.693	

Item 8. Works well with immediate supervisor.

Subjects	Total		Male		Female	
Responses	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)
1	3	1.9	1	1.7	2	2.1
2	3	3.8	1	3.4	2	4.1
3	18	15.3	10	20.7	8	12.4
4	51	47.8	16	48.3	34	47.4
5	82	100.0	30	100.0	51	100.0
Mean	4.312		4.259		4.340	
SD	.891		.928		.877	

Table 18 (cont'd)

Item 9. Arrives on time (punctuality).

Subjects Responses	Total		Male		Female	
	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)
1	5	3.2	1	1.7	4	4.1
2	6	7.0	3	6.9	3	7.2
3	21	20.4	14	31.0	6	13.4
4	43	47.8	15	56.9	28	42.3
5	82	100.0	25	100.0	56	100.0
Mean	4.217		4.034		4.330	
SD	1.027		1.025		1.018	

Item 10. Comes to work regularly (attendance).

Subjects Responses	Total		Male		Female	
	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)
1	4	2.5	1	1.7	3	3.1
2	8	7.6	2	5.2	6	9.3
3	16	17.8	8	19.0	7	16.5
4	46	47.1	19	51.7	27	44.3
5	83	100.0	28	100.0	54	100.0
Mean	4.248		4.224		4.268	
SD	1.004		.937		1.046	

Item 11. Follows through on job assignment.

Subjects Responses	Total		Male		Female	
	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)
1	4	2.6	1	1.8	3	3.1
2	3	4.5	1	3.5	2	5.2
3	19	16.7	11	22.8	7	12.4
4	60	55.1	18	54.4	41	54.6
5	70	100.0	26	100.0	44	100.0
Mean	4.212		4.175		4.247	
SD	-1.404		.928		.913	

Item 12. Shows self control (copes will with anger, frustration).

Subjects Responses	Total		Male		Female	
	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)
1	5	3.2	1	1.7	4	4.1
2	1	3.8	0	1.7	1	5.2
3	25	19.7	10	19.0	15	20.6
4	51	52.2	18	50.0	32	53.6
5	75	100.0	29	100.0	45	100.0
Mean	4.210		4.276		4.165	
SD	.954		.874		1.007	

Table 18 (cont'd)

Item 13. Able to take criticism.

Subjects	Total		Male		Female	
Responses	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)
1	3	1.9	1	1.7	2	2.1
2	4	4.5	0	1.7	4	6.2
3	35	26.8	14	25.9	20	26.8
4	61	65.6	26	70.7	35	62.9
5	54	100.0	17	100.0	36	100.0
Mean	4.013		4.000		4.021	
SD	.920		.838		.968	

Item 14. Shows desire to improve skills.

Subjects	Total		Male		Female	
Responses	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)	Abs Freq	Cum Freq(%)
1	6	3.8	2	3.4	4	4.1
2	1	4.5	0	3.4	1	5.2
3	25	20.4	9	19.0	15	20.6
4	53	54.1	20	53.4	33	54.6
5	72	100.0	27	100.0	44	100.0
Mean	4.172		4.207		4.155	
SD	.982		.951		1.004	

Other Questionnaire Items

In addition to completing the scale, employers were asked to respond to four questions:

A. *Was the employee's occupational training in school the basis for hiring?*
______ *Yes* ______ *No*

B. *Is this employee still with your company?* ______ *Yes* ______ *No*

C. *If not for approximately how long was he/she employed?* ____________

D. *Please state reasons for termination of employment:* ______________

The responses to these questions are discussed below.

A. *Was the employee's occupational training in school the basis for hiring?* Of the 137 valid responses to this question,35 were yes. The percentage of employers responding yes, 25.5%, was the same for girls (26.5% of their employers said yes) and boys (24.5% of their employers said yes.)

B. *Is this employee still with your company?* Of the 155 employers responding, 105 or 67.7% reported the graduates were still employed. A higher percentage of the males (73.2%) than the females (65.6%) were retained.

C. *If not, for approximately how long was he/she employed?* The number of months employed was given by 44 of the possible 50 employers. Table 19, Tenure of Graduates No Longer Employed, gives tenure for the total group, boys and girls. It should be remembered that this is only the tenure of those no longer employed.

Table 19

Tenure of Graduates No Longer Employed

Time in	Absolute Frequency		
Months	Total	Male	Female
1	11	4	7
2	7	3	4
3	2	1	1
4	4	0	4
5	3	1	2
6	7	3	4
7	2	0	2
8	4	2	2
9	4	2	2
Total	44	16	28

D. *Please state reason for termination of employment.* This was an open-ended question. Employers' responses were then classified according to the reasons below. Verv few, only 13 of the possible 50, responded to this question. Table 20, Reasons for Terminations, reports the responses, but the small number prohibits any interpretation.

Table 20

Reasons for Termination

Reason	N
Employee's choice - Found a better job	4
Employee's choice - Entered the military	4
Employee's choice - Other	2
It was a temporary job	1
Company's finances - Layoff, etc.	1
Employer's choice - Dissatisfied with employee	1

Program Assessment

For the purposes of program assessment, the employers' responses were grouped by a dichotmous category: Had the graduates received training in a Vocational High School or an Academic/Comprehensive High School. The Vocational High School category included all schools which were so classified by the Board of Education and two schools, Norman Thomas and Murray Bergtraum High Schools, which have a world of work focus. All other schools were classified Academic for the purposes of this analysis. There were 43 responses from employers of graduates of Vocational High School occupational education programs and 114 responses from employers of graduates of Academic High School occupational education programs.

Although the graduates of Vocational High Schools did have higher Total Scale Means as well as higher Weighted Scale Means than the graduates of Academic High Schools, the differences did not reach the required level of significance. Means and standard deviations are reported in Table 21, Scale Scores - Vocational Graduates vs. Academic Graduates.

A meaningful and significant difference was found between graduates of Academic vs Vocational High Schools in the response to the question of whether occupational traaining was the basis for hiring. ($x^2 = 6.42284$, df=1, $P < .01$). Of the employers of Vocational High School graduates 42.1% said occupational training was the basis for hiring. Of the employers of Academic High School graduates, 19.2% said occupational training was the basis for hiring.

Chi square analysis yielded no significant difference in job retention between Academic and Vocational High School graduates.

Table 21

Scale Scores

Vocational Graduates vs. Academic Graduates

	N	Total Score		Weighted Score	
		M	SD	M	SD
Vocational	40	4.243	.790	4.151	.811
Academic	104	4.177	.703	4.090	.069

Training the Basis for Hiring

A second analysis of differences was done on the basis of whether the employer reported the graduate's training was the basis for hiring. As reported above, there was a significant difference between graduates of Vocational and Academic groups on this item.

Again, although the Total Scale and Weighted Scale Means are higher for those for whom the employers said training was the basis for hiring, the difference is not significant. The results are reported in Table 22, Scale Scores - Training Basis for Hire vs.Training Not Basis.

Chi square analysis did not show a significant relationship between training being the basis for hiring and job retention.

Table 22

Scale Scores

Training Basis for Hire vs. Training Not Basis

	N b	Total Score		Weighted Score	
		M	SD	M	
Training Yes	34	4.3298	.726	4.2266	.728
Training No	91	4.1138	.750	4.0333	.760

Job Retention

The final reanalysis of the scale was done by again dividing the subjects into a dichotomous grouping - those who were still working and those not.

As reported in Table 23, Scale Scores - Retained vs. Not Retained, there was a significant difference ($P<.05$) between those who were still working and those who were not. This held true for both the Total and Weighted Scale Means. While it would thus seem that the scale is able to differentiate between employees who are satisfactory to their employers and those who are not, it should be noted that the means of both groups were well above the midpoint (2.5) of the scale. Since employers seem to prefer the high end of the scale, and the midpoint is not the break between satisfactory and unsatisfactory performance, further research is needed to find that true break for the scale and each of its items.

Table 23

Scale Scores

Retained vs. Not Retained

	N	Total Score		Weighted Score	
		M	SD	M	SD
Retained	97	4.2923	.615	4.2161	.607
Not Retained	45	3.9921	.906	3.8767	.923

$F=5.357, P<.05$

$F=6.803, P<.05$

CHAPTER 3

SUMMARY AND RECOMMENDATIONS

This study originated with the need to find means for measuring the outcomes of occupational education programs that went beyond the counting of placements. Employer satisfaction with the employability skills of their employees, New York City's graduates, was deemed the most important factor to explore.

Findings

Based on this decision a 14 item Employee Rating Scale was developed and tested. The tests showed the scale to be internally consistent as well as reliable over time. Although it did not seem useful as a self-rating instrument, it did appear to be a robust measure of employers ratings of groups of graduates.

The scale was then used to assess a small number of Vocational and Academic High School 1978 graduates with occupational training.

While the small sample may have inhibited some relationships, three meaningful results emerged:

- Graduates who were still employed had higher scores on the Employee Rating Scale than graduates who were not still employed;
- Significantly more employers reported that occupational training in high school was the basis for hiring of Vocational High School graduates than for hiring of Academic High School graduates.
- Employers showed a high level of satisfaction with the on-the-job performance of all graduates.

Recommendations

- Encourage all schools to offer a world-of-work focus as it is offered in the Vocational High Schools either through intensive blocks of occupational education classes and/or through greater exposure to people who have worked in the field of interest to the student.

- Develop and promote the use of materials which facilitate the students seeing the work world through employers' eyes. One of the most striking results was the difference in underlying views of the attitudes examined in employer and graduate use of the scale.

- Incorporate the direct teaching of employability skills into all occupational education curricula.

- Continue and expand programs such as the Youth Employment Training Program, which involve youth directly with employers.

- Improve follow-up techniques for gathering employers' names so that sufficient numbers will be available to analyze such variables as occupational clusters, dropouts with varying amounts of training, graduates of particular schools or programs.

- Refine the Employee Rating Scale so that differences between skill clusters can be analyzed and the true scale break point between satisfactory and unsatisfactory performance can be established.

- Develop an instrument to assess student preparedness for work in terms of job keeping skills as well as occupational competencies.

A final note! Much has been written on the poor performance of today's youth in the job market. While it is true that the numbers involved in both the 1977 and 1978 employer surveys represent a small fraction of the city's young people, it is heartening to see the overwhelmingly high ratings given these groups of graduates by their employers.

Appendix A:

Occupational Education Data Survey (OEDS 2)

BOARD OF EDUCATION OF THE CITY OF NEW YORK
Center for Career and Occupational Education
131 Livingston Street, Brooklyn, NY 11201

Dear Former Student:

In an effort to find out what you have been doing in your choice of career since you left school, we are sending you this questionnaire. Information that you provide is needed for improving occupational education so that future students will benefit from your experience.

Please answer each question with a check in the proper space. Then return the completed questionnaire in the enclosed postage-free envelope as soon as possible.

Be assured that all your answers will be treated confidentially. No signature is required. Please enclose a separate sheet of paper if you have any comments you would like to make about your occupational training.

Thank you very much for your cooperation.

maj

Norman E. Watnick, Assistant Director

---

1. Did you complete your Occupational Course of Study?
   ___ Yes ___ No ___ Not Sure
2. If you are continuing your education, please mark type of education:
   - A___ Adult Occupational Classes
   - B___ Private Occupational School
   - C___ On-the-job Training
   - D___ Apprenticeship program
   - E___ Occupational Education in a 2-year college
   - F___ Other educational program in a 2-year college
   - G___ 4-year college or university
   - H___ Other type of education
3. If you are continuing your occupational education is it in the same subject area as your previous training?
   ___ Yes ___ No
4. Armed Services
   - A. Are you now serving as a member of the Armed Services?
     ___ Yes ___ No
   - B. Have you enlisted in the Armed Services?
     ___ Yes ___ No
   - C. Do you intend to enlist in the Armed Services?
     ___ Yes ___ No
5. Are you still attending high school?
   ___ Yes ___ No
6. Did you graduate from high school last spring or summer?
   ___ Yes ___ No
7. What is your current employment status?
   - A___ Employed full-time in a job for which you were trained
   - B___ Employed full-time in a job SLIGHTLY RELATED to your training
   - C___ Employed full-time in a job NOT RELATED to your training
   - D___ Employed part-time
   - E___ Unemployed and looking for work
   - F___ Unemployed and NOT looking for work
   - G___ Waiting to enter the the Armed Services
   - H___ In the Armed Services
8. If you have a job - how many hours do you work a week? ______
9. If you have a job - what is your total weekly salary?
   1___ $1-$40 2___ $41-$80 3___ $81-$120 4___$121-$160
   5___ $161-$200 6___ $201-$240 7___ $241 and Over
10. If you have a job - please give us the name and address of your present employer:

____
Name Address

____
City State Zip

11. If you did not complete your Occupational Course of Study, please mark the reason which applies to you:
    - A___ Obtained Employment
    - B___ Military
    - C___ Dropped out of school
    - D___ Failed to meet program standards
    - E___ Program did not meet student needs
    - F___ Other
12. If you are unemployed, please mark the reason that best applies to you:
    - A___ Continuing my education
    - B___ Too ill to work
    - C___ Cannot find work
    - D___ Other reason

Appendix B: Employer Questionnaire and Cover Letter

BOARD OF EDUCATION OF THE CITY OF NEW YORK
DIVISION OF EDUCATIONAL PLANNING AND SUPPORT
CENTER FOR CAREER AND OCCUPATIONAL EDUCATION
110 LIVINGSTON STREET, BROOKLYN, NEW YORK 11201
522-8122

GEORGE R. QUARLES
CHIEF ADMINISTRATOR

May 30, 1978

Dear Employer:

The New York City Board of Education is conducting an evaluation of selected occupational programs. As the employer of one of our former students, you are in a unique position to provide valuable input into our study.

The information you share with us will be confidential and will be used only to evaluate and improve programs. Indeed, all identification by individuals will be "lost" as soon as the ratings are grouped by occupational training program.

Please give us the benefit of your knowledge by completing the enclosed questionnaire and returning it in the envelope provided to:

Deborah E. Perlmutter, Coordinator
System-wide Tests of Occupational Programs
Center for Career and Occupational Education
131 Livingston Street - Room 512
Brooklyn, New York 11201

Yours truly,

Deborah E. Perlmutter

Deborah E. Perlmutter, Coordinator
System-wide Tests of Occupational Programs

DEP:bg
Enclosure

APPROVED:

George R. Quarles

George R. Quarles
Chief Administrator

Board of Education of the City of New York
Center for Career and Occupational Education
Employer Evaluation

Company Name______________________ ______________________

Address______________________ ______________________ ______________________

______________________ who was in an occupational program last year is or was, employed by your company. Please fill in his/her job title______________________

Then rate his/her performance, as compared to other beginning workers, using the rating scale below.

Inadequate
Adequate
More than adequate
Insufficient information to rate worker at this time
Not applicable to job

Check appropriate box for each item

	Inadequate	Adequate	More than Adeq.	Insufficient Info.	Not Applicable
1. Is familiar with necessary equipment............	☐	☐	☐	☐	☐
2. Shows talent in job performance................	☐	☐	☐	☐	☐
3. Finds necessary information in printed material..	☐	☐	☐	☐	☐
4. Can follow oral work directions................	☐	☐	☐	☐	☐
5. Is a productive worker..........................	☐	☐	☐	☐	☐
6. Has necessary physical qualifications (strength, endurance, vision, etc.)......................	☐	☐	☐	☐	☐
7. Works well with fellow employees...............	☐	☐	☐	☐	☐
8. Works well with immediate supervisor...........	☐	☐	☐	☐	☐
9. Arrives on time (punctuality)...................	☐	☐	☐	☐	☐
10. Comes to work regularly (attendance)............	☐	☐	☐	☐	☐
11. Follows through on a job assignment.............	☐	☐	☐	☐	☐
12. Shows self control (copes well with anger, frustration)................................	☐	☐	☐	☐	☐
13. Able to take criticism..........................	☐	☐	☐	☐	☐
14. Shows desire to improve skills..................	☐	☐	☐	☐	☐

Employer Evaluation P. 2

____

A. Was the employee's occupational training in school the basis for hiring?
____ yes, ____ no

B. Is the above named job, the same job for which the employee was originally hired?
____ yes, ____ no

C. If not, was the job move: ___a move up, ____a move down, ____on the same level?

D. Is this employee still with your company?
____ yes, ____ no

E. If yes, for approximately how long has he/she been employed?____________________

F. If not, for approximately how long was he/she employed?________________________

G. Reason for termination of employment______________________________________

H. Can you suggest methods, or learning experiences, that might be employed by occupational programs to improve student preparation for the world of work.

____
Signature of Person Completing Report

____
Title

Appendix C: GRAD Questionnaire (Form A & Form B) and Cover Letter

System-Wide Tests of Occupational Programs
Center for Career and Occupational Education
Board of Education of the City of New York
131 Livingston Street - Room 512
Brooklyn, NY 11201 Telephone# 858-6940

June 8, 1978

Dear Former Student:

STOP - Please don't throw this away!

At the end of May, you were sent a questionnaire concerning your occupational training program and job experiences. We need your questionnaire to complete the study.

Enclosed is a second copy of the questionnaire. Please fill it out and return it to us in the pre-addressed envelope.

The information which is being gathered is strictly confidential.

Please help us improve programs for future students - perhaps for younger people you know.

MAKE YOUR OPINION COUNT. LET US COUNT IT!

Yours truly,

Deborah E. Perlmutter

Deborah E. Perlmutter, Coordinator
Project STOP

DEP:bj
Enclosure

Board of Education of the City of New York
Center for Career and Occupational Education
Project STOP
Student One Year Follow-up

1. Check the program you were enrolled in the last school year, June 1976 - September 1977. Be sure that you do not give this current year.

____ Day High School (Not Co-op Ed) ______________________
Fill in School Name

____ Co-op Ed in High School ______________________
Fill in School Name

____ Adult Preparatory Program

____ Other ______________________
Please fill in

2. Check the field below in which you received occupational training in this program.

____ Agriculture Production
____ Ornamental Horticulture
____ Conservation
____ Distributive Education
____ General Merchandising
____ Transportation & Service
____ Medical Laboratory
____ Nurse Assistant
____ Home Health Assisting
____ Food Management, Production & Services
____ Bookkeeping & Accounting
____ Data Processing
____ General Office
____ Stenography
____ Supervisory & Administrative Management
____ Architectural Technology
____ Chemical Technology
____ Civil Techonlogy
____ Electronic Technology
____ Environmental Control Technology
____ Climate Control
____ Appliance Repair
____ Automotive Services
____ Aviation Operation
____ Photography Occupations
____ Construction
____ Custodial
____ Electric Occupations
____ Electronics
____ Graphic Arts
____ Maritime Occuaptions
____ Machine & Metal Industries
____ Personal Services
____ Other ______________________
Please fill in

3. Up to June 1977 - a year ago - how much training had you received in the field checked above?

____ 1 term or less, ____ 1 year ____ 3 terms,

____ 4 to 5 terms, ____ 3 years or more.

4. Are you continuing your education this school year, September 1977 - June 1978?

____ Yes, in a program related to the occupational training above.

____ Yes, in a program not related to the occupational training above.

____ No

Student 1 year Follow-up Page 2

________________________________ A

5. When you completed the first questionnaire in the Fall - September or November 1977 you gave us an employer's name. Put yourself in the place of that employer. Then rate your performance compared to other beginning workers, as you think your employer would rate you. Use the rating scale below.

Inadequate
Adequate
More than adequate
Insufficient information to rate worker at this time
Not applicable to job

	Check appropriate box for each item				
	Inadequate	Adequate	More than Adeq.	Insufficient Info.	Not Applicable
A. Is familiar with necessary equipment............	☐	☐	☐	☐	☐
B. Shows talent in job performance................	☐	☐	☐	☐	☐
C. Finds necessary information in printed material..	☐	☐	☐	☐	☐
D. Can follow oral work directions................	☐	☐	☐	☐	☐
E. Is a productive worker.........................	☐	☐	☐	☐	☐
F. Has necessary physical qualifications (strength, endurance, vision, etc.).........................	☐	☐	☐	☐	☐
G. Works well with fellow employees...............	☐	☐	☐	☐	☐
H. Works well with immediate supervisor............	☐	☐	☐	☐	☐
I. Arrives on time (punctuality)..................	☐	☐	☐	☐	☐
J. Comes to work regularly (attendance)............	☐	☐	☐	☐	☐
K. Follows through on a job assignment.............	☐	☐	☐	☐	☐
L. Shows self control (copes well with anger, frustration).................................	☐	☐	☐	☐	☐
M. Able to take criticism.........................	☐	☐	☐	☐	☐
N. Shows desire to improve skills..................	☐	☐	☐	☐	☐

6. Are you still employed by the same employer as in the Fall?

____yes ____ no

Student 1 Year Follow-up Page 3

____

7. If the answer to the questions 6 is No, please answer the following questions. If Yes, go to question 8.

   7A *Why did you leave?*____

   ____

   7B *Are you now employed?* ____ *yes* ____ *no*

   7C *If you are now employed, is this new job related to the occupational training you checked above?*

   ____ *yes* ____ *no*

   7D *If you are now employed, is this new job:*

   ____ *full time* ____ *part-time* ________________
   Fill in hours per week

8. For your present job, please fill in your job title, the name and address of your current employer, and the name of your immediate supervisor.

   Your job title:________________________________

   Company name:________________________________

   Company address:________________________________

   Borough or City, State, Zip:______________ ______________ ______________

   Name of immediate supervisor:________________________

   ____ Not currently employed

9. Sex: ____ male ____ female

10. Did you graduate from high school?

    ____ yes, year of graduation__________

    ____ no, still attending high school ________________
    Grade now in

    ____ no, no longer attending high school ________________
    Highest grade completed

11. If you have suggestions of methods or learning experiences that might be used by occupational programs to improve student preparation for the world of work please use the reverse side of this page.

Board of Education of the City of New York
Center for Career and Occupational Education
Project STOP
Student One Year Follow-up

1. Check the program you were enrolled in the last school year, June 1976 - September 1977. Be sure that you do not give this current year.

____ Day High School (Not Co-op Ed) ______________________________
Fill in School Name

____ Co-op Ed in High School ______________________________
Fill in School Name

____ Adult Preparatory Program

____ Other ______________________________
Please fill in

2. Check the field below in which you received occupational training in this program.

____ Agriculture Production
____ Ornamental Horticulture
____ Conservation
____ Distributive Education
____ General Merchandising
____ Transportation & Service
____ Medical Laboratory
____ Nurse Assistant
____ Home Health Assisting
____ Food Management, Production & Services
____ Bookkeeping & Accounting
____ Data Processing
____ General Office
____ Stenography
____ Supervisory & Administrative Management
____ Architectural Technology
____ Chemical Technology

____ Civil Techonlogy
____ Electronic Technology
____ Environmental Control Technology
____ Climate Control
____ Appliance Repair
____ Automotive Services
____ Aviation Operation
____ Photography Occupations
____ Construction
____ Custodial
____ Electric Occupations
____ Electronics
____ Graphic Arts
____ Maritime Occuaptions
____ Machine & Metal Industries
____ Personal Services
____ Other ______________________
Please fill in

3. Up to June 1977 - a year ago - how much training had you received in the field checked above?

____ 1 term or less, ____ 1 year ____ 3 terms,

____ 4 to 5 terms, ____ 3 years or more.

4. Are you continuing your education this school year, September 1977 - June 1978?

____ Yes, in a program related to the occupational training above.

____ Yes, in a program not related to the occupational training above.

____ No

________________________ B

5. When you completed the first questionnaire in the Fall - September or November - 1977, you gave us an employer's name. Please rate your performance on that job as compared to other beginning workers using the rating scale below.

Inadequate
Adequate
More than adequate
Insufficient information to rate worker at this time
Not applicable to job

	Check appropriate box for each item				
	Inad-equate	Adeq. quate	More than Adeq.	Insuf-ficient Info.	Not Appli-cable
A. Am familiar with necessary equipment............	☐	☐	☐	☐	☐
B. Show talent in job performance..................	☐	☐	☐	☐	☐
C. Find necessary information in printed material..	☐	☐	☐	☐	☐
D. Can follow oral work directions.................	☐	☐	☐	☐	☐
E. Am a productive worker..........................	☐	☐	☐	☐	☐
F. Have necessary physical qualifications (strength, endurance, vision, etc.)......................	☐	☐	☐	☐	☐
G. Work well with fellow employees.................	☐	☐	☐	☐	☐
H. Work well with immediate supervisor.............	☐	☐	☐	☐	☐
I. Arrive on time (punctuality)....................	☐	☐	☐	☐	☐
J. Come to work regularly (attendance).............	☐	☐	☐	☐	☐
K. Follow through on a job assignment..............	☐	☐	☐	☐	☐
L. Show self control (cope well with anger, frustration)..................................	☐	☐	☐	☐	☐
M. Able to take criticism..........................	☐	☐	☐	☐	☐
N. Show desire to improve skills...................	☐	☐	☐	☐	☐

6. Are you still employed by the same employer as in the Fall?

____ yes ____ no

Student 1 Year Follow-up Page 3

____

7. If the answer to the questions 6 is No, please answer the following questions. If Yes, go to question 8.

7A *Why did you leave?* ____

____

7B *Are you now employed?* ____ *yes* ____ *no*

7C *If you are now employed, is this new job related to the occupational training you checked above?*

____ *yes* ____ *no*

7D *If you are now employed, is this new job:*

____ *full time* ____ *part-time* ____________ *Fill in hours per week*

8. For your present job, please fill in your job title, the name and address of your current employer, and the name of your immediate supervisor.

Your job title: ______________________________

Company name: ______________________________

Company address: ______________________________

Borough or City, State, Zip: __________ __________ __________

Name of immediate supervisor: ______________________

____ Not currently employed

9. Sex: ____ male ____ female

10. Did you graduate from high school?

____ yes, year of graduation __________

____ no, still attending high school ____________ Grade now in

____ no, no longer attending high school ____________ Highest grade completed

11. If you have suggestions of methods or learning experiences that might be used by occupational programs to improve student preparation for the world of work please use the reverse side of this page.

Appendix D: Remailing Cover Letters

System-Wide Tests of Occupational Programs
Center for Career and Occupational Education
Board of Education of the City of New York
131 Livingston Street - Room 512
Brooklyn, NY 11201 Telephone# 858-6940

June 8, 1978

Dear Former Student:

STOP - Please don't throw this away!

At the end of May, you were sent a questionnaire concerning your occupational training program and job experiences. We need your questionnaire to complete the study.

Enclosed is a second copy of the questionnaire. Please fill it out and return it to us in the pre-addressed envelope.

The information which is being gathered is strictly confidential.

Please help us improve programs for future students - perhaps for younger people you know.

MAKE YOUR OPINION COUNT. LET US COUNT IT!

Yours truly,

Deborah E. Perlmutter

Deborah E. Perlmutter, Coordinator
Project STOP

DEP:bj
Enclosure

System-Wide Tests of Occupational Programs
Center for Career and Occupational Education
Board of Education of the City of New York
131 Livingston Street - Room 512
Brooklyn, NY 11201 Telephone# 858-6940

June 8, 1978

Dear Employer:

STOP - Please don't throw this away!

At the end of May, you were sent a questionnaire concerning an employee of yours who is a former student of ours. We need your questionnaire to complete the study.

Enclosed is a second copy of the questionnaire. Please fill it out and return it to us in the pre-addressed envelope.

The information which is being gathered is strictly confidential.

Please help us improve programs for future students - perhaps for younger people you know.

MAKE YOUR OPINION COUNT. LET US COUNT IT!

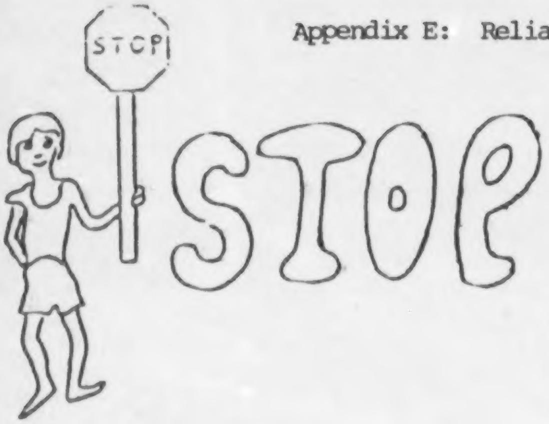
Yours truly,

Deborah E. Perlmutter

Deborah E. Perlmutter, Coordinator
Project STOP

DEP:bj
Enclosure

Appendix E: Reliability Retest Instruments and Cover Letters



System-Wide Tests of Occupational Programs
Center for Career and Occupational Education
Board of Education of the City of New York
131 Livingston Street - Room 512
Brooklyn, NY 11201 Tel: 858-6940

December 1, 1978

Dear Employer:

STOP! We know you have already helped us once in our evaluation of selected occupational programs.

A part of this study requires that we check our own work for accuracy. We are therefore asking you to complete the enclosed scale again and return it to us in the envelope provided.

We continue to assure you that the information you share with us will be confidential and will be used only to evaluate and improve programs. Indeed, all identification by individuals will be "lost" as soon as the ratings are grouped by occupational training program.

We appreciate the continuing interest you have shown in program improvement through employer input.

Yours truly,

Deborah E Perlmutter

Deborah E. Perlmutter, Coordinator
Project STOP

bj
Enclosure

System-Wide Tests of Occupational Programs
Center for Career and Occupational Education
Board of Education of the City of New York
131 Livingston Street - Room 512
Brooklyn, NY 11201 Tel: 858-6940

December 1, 1978

Dear Former Student:

STOP! Thank you so much for completing the two follow-ups we've sent you.

As you know by now, we are trying to see how well particular occupational programs prepare students for work.

A part of this study requires that we check our own work for accuracy. We are therefore asking you to complete the enclosed scale again, and return it to us in the envelope provided.

The information you share with us will be confidential and used only to evaluate and improve programs. Your answers will be combined with the answers of other former students in summary form.

We appreciate the continuing interest you have shown in helping future students.

Yours truly,

Deborah E. Perlmutter

Deborah E. Perlmutter, Coordinator
Project STOP

bj
Enclosure

Board of Education of the City of New York
Center for Career and Occupational Education
Employer Evaluation

Company Name________________________ ________________________

Address________________________ ________________________ ________________________

________________________ who was in an occupational program last year is or was, employed by your company. Please fill in his/her job title________________________

Then rate his/her performance, as compared to other beginning workers, using the rating scale below.

Inadequate
Adequate
More than adequate
Insufficient information to rate worker at this time
Not applicable to job

	Check appropriate box for each item				
	Inadequate	Adequate	More than Adeq.	Insufficient Info.	Not Applicable
1. Is familiar with necessary equipment...........	☐	☐	☐	☐	☐
2. Shows talent in job performance................	☐	☐	☐	☐	☐
3. Finds necessary information in printed material..	☐	☐	☐	☐	☐
4. Can follow oral work directions................	☐	☐	☐	☐	☐
5. Is a productive worker.........................	☐	☐	☐	☐	☐
6. Has necessary physical qualifications (strength, endurance, vision, etc.)........................	☐	☐	☐	☐	☐
7. Works well with fellow employees...............	☐	☐	☐	☐	☐
8. Works well with immediate supervisor...........	☐	☐	☐	☐	☐
9. Arrives on time (punctuality)..................	☐	☐	☐	☐	☐
10. Comes to work regularly (attendance)...........	☐	☐	☐	☐	☐
11. Follows through on a job assignment............	☐	☐	☐	☐	☐
12. Shows self control (copes well with anger, frustration)....................................	☐	☐	☐	☐	☐
13. Able to take criticism.........................	☐	☐	☐	☐	☐
14. Shows desire to improve skills.................	☐	☐	☐	☐	☐

Board of Education of the City of New York
Center for Career and Occupational Education
Project STOP
Verification

______________________________ A

When you completed the first questionnaire in the Fall - September or November 1977 you gave us an employer's name. Put yourself in the place of that employer. Then rate your performance compared to other beginning workers, as you think your employer would rate you. Use the rating scale below.

Inadequate
Adequate
More than adequate
Insufficient information to rate worker at this time
Not applicable to job

	Check appropriate box for each item				
	Inad-equate	Adeq-quate	More than Adeq.	Insuf-ficient Info.	Not Appli-cable
A. Is familiar with necessary equipment...........	☐	☐	☐	☐	☐
B. Shows talent in job performance................	☐	☐	☐	☐	☐
C. Finds necessary information in printed material..	☐	☐	☐	☐	☐
D. Can follow oral work directions................	☐	☐	☐	☐	☐
E. Is a productive worker.........................	☐	☐	☐	☐	☐
F. Has necessary physical qualifications (strength, endurance, vision, etc.)......................	☐	☐	☐	☐	☐
G. Works well with fellow employees...............	☐	☐	☐	☐	☐
H. Works well with immediate supervisor...........	☐	☐	☐	☐	☐
I. Arrives on time (punctuality)..................	☐	☐	☐	☐	☐
J. Comes to work regularly (attendance)...........	☐	☐	☐	☐	☐
K. Follows through on a job assignment............	☐	☐	☐	☐	☐
L. Shows self control (copes well with anger, frustration).................................	☐	☐	☐	☐	☐
M. Able to take criticism.........................	☐	☐	☐	☐	☐
N. Shows desire to improve skills.................	☐	☐	☐	☐	☐

Board of Education of the City of New York
Center for Career and Occupational Education
Project STOP
Verification

______________________________ B

When you completed the first questionnaire in the Fall - September or November - 1977, you gave us an employer's name. Please rate your performance on that job as compared to other beginning workers using the rating scale below.

Inadequate
Adequate
More than adequate
Insufficient information to rate worker at this time
Not applicable to job

Check appropriate box for each item

	Inad- equate	Adeq. quate	More than Adeq.	Insuf- ficient Info.	Not Appli- cable
A. Am familiar with necessary equipment............	☐	☐	☐	☐	☐
B. Show talent in job performance..................	☐	☐	☐	☐	☐
C. Find necessary information in printed material..	☐	☐	☐	☐	☐
D. Can follow oral work directions.................	☐	☐	☐	☐	☐
E. Am a productive worker..........................	☐	☐	☐	☐	☐
F. Have necessary physical qualifications (strength, endurance, vision, etc.)........................	☐	☐	☐	☐	☐
G. Work well with fellow employees.................	☐	☐	☐	☐	☐
H. Work well with immediate supervisor.............	☐	☐	☐	☐	☐
I. Arrive on time (punctuality)....................	☐	☐	☐	☐	☐
J. Come to work regularly (attendance).............	☐	☐	☐	☐	☐
K. Follow through on a job assignment..............	☐	☐	☐	☐	☐
L. Show self control (cope well with anger, frustration)..................................	☐	☐	☐	☐	☐
M. Able to take criticism..........................	☐	☐	☐	☐	☐
N. Show desire to improve skills...................	☐	☐	☐	☐	☐

Appendix F: Paired Comparisons Instruments and Cover Letters

System-Wide Tests of Occupational Programs
Center for Career and Occupational Education
Board of Education of the City of New York
131 Livingston Street - Room 512
Brooklyn, NY 11201 Tel: 858-6540

April 9, 1979

Dear Employer:

STOP! We know you have already helped us once in our evaluation of selected occupational programs.

A part of this study requires that we measure employer opinions about various job behaviors. We are therefore asking you to complete the enclosed questionnaire, according to the directions given, and return it to us in the envelope provided.

We appreciate the continuing interest you have shown in program improvement through employer input.

Yours truly,

Deborah E Perlmutter

Deborah E. Perlmutter, Coordinator
Project STOP

bj
Inclosure

System-Wide Tests of Occupational Programs
Center for Career and Occupational Education
Board of Education of the City of New York
131 Livingston Street - Room 512
Brooklyn, NY 11201 Tel: 858-6940

April 9, 1979

Dear Former Student:

STOP! Thank you so much for completing the two follow-ups we've sent you.

As you know by now, we are trying to see how well particular occupational programs prepare students for work.

A part of this study requires that we measure opinions about various job behaviors. We are therefore asking you to complete the enclosed questionnaire, according to the directions given, and return it to us in the envelope provided.

We appreciate the continuing interest you have shown in helping future students.

Yours truly,

Deborah E Perlmutter

Deborah E. Perlmutter, Coordinator
Project STOP

bj
Enclosure

Directions

The purpose of this study is to find out the opinions of people about how to succeed on a job.

The following list of job behaviors has been arranged in pairs. Please decide which of each pair you think is more important for succeeding on a job and circle the letter next to it.

An example: A. Punctuality
[✓ B.] Attendance

If, for example, you feel that attendance is the more important behavior, you would circle the [✓ B] next to it.

Since there are 91 pairs (incidentally there are no repetitions) don't spend too much time on any one pair. If you find a pair of behaviors that seem equally important, be sure to circle one of them anyway, even if you have to estimate.

Please be sure to circle one in each pair.

Please return in the envelope provided.

Thank you.

Comparisons

1. A. Familiarity with equipment
   B. Talent in job performance

2. A. Desire to improve skills
   B. Following oral work directions

3. A. Ability to take criticism
   B. Being a productive worker

4. A. Showing self control
   B. Having necessary physical qualifications

5. A. Following through on a job assignment
   B. Working well with fellow employees

6. A. Coming to work regularly
   B. Working well with immediate supervisor

7. A. Arriving on time
   B. Familiarity with equipment

8. A. Finding information in printed material
   B. Talent in job performance

9. A. Being a productive worker
   B. Desire to improve skills

10. A. Having necessary physical qualifications
    B. Ability to take criticism

11. A. Working well with fellow employees
    B. Showing self control

12. A. Working well with immediate supervisor
    B. Following through on a job assignment

13. A. Arriving on time
    B. Coming to work regularly

14. A. Familiarity with equipment
    B. Finding information in printed materials

15. A. Talent in job performance
    B. Following oral work directions

16. A. Desire to improve skills
    B. Having necessary physical qualifications

17. A. Ability to take criticism
    B. Working well with fellow employees

18. A. Showing self control
    B. Working well with immediate supervisor

Comparisons P. 2

19. A. Following through on a job assignment
    B. Arriving on time

20. A. Coming to work regularly
    B. Familiarity with equipment

21. A. Following oral work directions
    B. Finding information in printed material

22. A. Being a productive worker
    B. Talent in job performance

23. A. Working well with fellow employees
    B. Desire to improve skills

24. A. Working well with immediate supervisor
    B. Ability to take criticism

25. A. Arriving on time
    B. Showing self control

26. A. Coming to work regularly
    B. Following through on a job assignment

27. A. Familiarity with equipment
    B. Following oral work directions

28. A. Finding information in printed material
    B. Being a productive worker

29. A. Talent in job performance
    B. Having necessary physical qualifications

30. A. Desire to improve skills
    B. Working well with immediate supervisor

31. A. Ability to take criticism
    B. Arriving on time

32. A. Showing self control
    B. Coming to work regularly

33. A. Following through on a job assignment
    B. Familiarity with equipment

34. A. Being a productive worker
    B. Following oral work directions

35. A. Having necessary physical qualifications
    B. Finding information in printed material

36. A. Working well with fellow employees
    B. Talent in job performance

Comparisons P. 3

37. A. Arriving on time
    B. Desire to improve skills

38. A. Coming to work regularly
    B. Ability to take criticism

39. A. Following through on a job assignment
    B. Showing self control

40. A. Familiarity with equipment
    B. Being a productive worker

41. A. Following oral work directions
    B. Having necessary physical qualifications

42. A. Finding information in printed material
    B. Working well with fellow employees

43. A. Talent in job performance
    B. Working well with immediate supervisor

44. A. Following oral work directions
    B. Coming to work regularly

45. A. Ability to take criticism
    B. Following through on a job assignment

46. A. Showing self control
    B. Familiarity with equipment

47. A. Having necessary physical qualifications
    B. Being a productive worker

48. A. Working well with fellow employees
    B. Following oral work directions

49. A. Working well with immediate supervisor
    B. Finding information in printed material

50. A. Arriving on time
    B. Talent in job performance

51. A. Following through on a job assignment
    B. Desire to improve skills

52. A. Showing self control
    B. Ability to take criticism

53. A. Familiarity with equipment
    B. Having necessary physical qualifications

54. A. Being a productive worker
    B. Working well with fellow employees

55. A. Following oral directions
B. Working well with immediate supervisor

56. A. Finding information in printed material
B. Arriving on time

57. A. Talent in job performance
B. Coming to work regularly

58. A. Desire to improve skills
B. Showing self control

59. A. Ability to take criticism
B. Familiarity with equipment

60. A. Working well with fellow employees
B. Having necessary physical qualifications

61. A. Working well with immediate supervisor
B. Being a productive worker

62. A. Arriving on time
B. Following oral work directions

63. A. Coming to work regularly
B. Finding information in printed material

64. A. Following through on a job assignment
B. Talent in job performance

65. A. Ability to take criticism
B. Desire to improve skills

66. A. Familiarity with equipment
B. Working well with fellow employees

67. A. Having necessary physical qualifications
B. Working well with immediate supervisor

68. A. Being a productive worker
B. Arriving on time

69. A. Following oral work directions
B. Coming to work regularly

70. A. Finding information in printed material
B. Following through on a job assignment

71. A. Talent in job performance
B. Showing self control

72. A. Desire to improve skills
B. Familiarity with equipment

73. A. Working well with immediate supervisor
    B. Working well with fellow employees

74. A. Arriving on time
    B. Having necessary physical qualifications

75. A. Coming to work regularly
    B. Being a productive worker

76. A. Following through on a job assignment
    B. Following oral work directions

77. A. Showing self control
    B. Finding information in printed material

78. A. Ability to take criticism
    B. Talent in job performance

79. A. Familiarity with equipment
    B. Working well with immediate supervisor

80. A. Working well with fellow employees
    B. Arriving on time

81. A. Having necessary physical qualifications
    B. Coming to work regularly

82. A. Being a productive worker
    B. Following through on a job assignment

83. A. Following oral work directions
    B. Showing self control

84. A. Finding information in printed material
    B. Ability to take criticism

85. A. Talent in job performance
    B. Desire to improve skills

86. A. Working well with immediate supervisor
    B. Arriving on time

87. A. Working well with fellow employees
    B. Coming to work regularly

88. A. Having necessary physical qualifications
    B. Following through on a job assignment

89. A. Being a productive worker
    B. Showing self control

90. A. Following oral work directions
    B. Ability to take criticism

91. A. Finding information in printed material
    B. Desire to improve skills

Appendix G: Employee Rating Scale and Cover Letters

BOARD OF EDUCATION OF THE CITY OF NEW YORK
DIVISION OF EDUCATIONAL PLANNING AND SUPPORT
CENTER FOR CAREER AND OCCUPATIONAL EDUCATION
110 LIVINGSTON STREET, BROOKLYN, NEW YORK 11201
—
522-5122

GEORGE R. QUARLES
CHIEF ADMINISTRATOR

July 6, 1979

Dear Employer:

The New York City Board of Education is conducting an evaluation of selected occupational programs. As the employer of one of our former students, you are in a unique position to provide valuable input into our study.

The information you share with us will be confidential and will be used only to evaluate and improve programs. Indeed, all identification by individuals will be "lost" as soon as the ratings are grouped by occupational training program.

Please give us the benefit of your knowledge by completing the enclosed questionnaire and returning it in the envelope provided to:

Deborah E. Perlmutter, Coordinator
System-wide Tests of Occupational Programs
Center for Career and Occupational Education
131 Livingston Street - Room 512
Brooklyn, New York 11201

Yours truly,

Deborah E. Perlmutter

Deborah E. Perlmutter, Coordinator
System-wide Tests of Occupational Programs

DEP:bg
Enclosure

APPROVED:

George R. Quarles

George R. Quarles
Chief Administrator

P.S. Any Questions: Call Vera Hannenberg at 522-5236.

System-Wide Tests of Occupational Programs
Center for Career and Occupational Education
Board of Education of the City of New York
131 Livingston Street - Room 512
Brooklyn, NY 11201

July 30, 1979

Dear Employer:

STOP - Please don't throw this away!

Early last month, you were sent a questionnaire concerning an employee of yours who is a former student of ours. We need your questionnaire to complete the study.

Enclosed is a second copy of the questionnaire. Please fill it out and return it to us in the pre-addressed envelope.

The information which is being gathered is strictly confidential.

Please help us improve programs for future students - perhaps for younger people you know.

MAKE YOUR OPINION COUNT. LET US COUNT IT!

Yours truly,

Deborah E. Perlmutter

Deborah E. Perlmutter, Coordinator
Project STOP

DEP:bj
Enclosure

P.S. Any Questions: Call Vera Hannenberg at 522-5326.

Board of Education of the City of New York
Center for Career and Occupational Education
Employee Rating Scale

Company Name ______________________________ ID#______________

______________________ who was in an occupational program in high school is, or was, employed by your company. Please fill in his/her job title______________________. Rate his/her performance, as compared to other beginning workers, by circling a score for each item. The ratings go from ① for Inadequate to ⑤ for More Than Adequate. PLEASE CIRCLE ONE NUMBER FOR EACH ITEM.

	Inad-equate				More than Adequate
1. Is familiar with necessary equipment.............	1	2	3	4	5
2. Shows talent in job performance..................	1	2	3	4	5
3. Finds necessary information in printed material..	1	2	3	4	5
4. Can follow oral work directions..................	1	2	3	4	5
5. Is a productive worker...........................	1	2	3	4	5
6. Has necessary physical qualifications (strength endurance, vision, etc.).........................	1	2	3	4	5
7. Works well with fellow employees.................	1	2	3	4	5
8. Works well with immediate supervisor.............	1	2	3	4	5
9. Arrives on time (punctuality)....................	1	2	3	4	5
10. Comes to work regularly (attendance)............	1	2	3	4	5
11. Follows through on a job assignment.............	1	2	3	4	5
12. Shows self control (copes well with anger, frustration).....................................	1	2	3	4	5
13. Able to take criticism..........................	1	2	3	4	5
14. Shows desire to improve skills..................	1	2	3	4	5

A. Was the employee's occupational training in school the basis for hiring?
____yes, ____no

B. Is this employee still with your company?
____yes, ____no

C. If not for approximately how long was he/she employed?______________________

D. Please state reason for termination of employment______________________

____

____

____
Signature of Person Completing Report

____
Title

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